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MAY 1961

Volume 30 Number 5

The International Journal of Medicine in Industry

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References: 1. Garber, R. C.: J. Florida M. A. *45*:549 (Nov.) 1958. 2. Lipton, M. I.: Pennsylvania M. J. *64*:60 (Jan.) 1961. 3. Ayd, F. J., Jr.: Psychotropic Drugs, S. Garattini and V. Ghetti, eds., New York, Elsevier Publishing Co., 1957, p. 548. 4. McGettigan, D. L.: West. Med. *1*:8 (Jan.) 1960.

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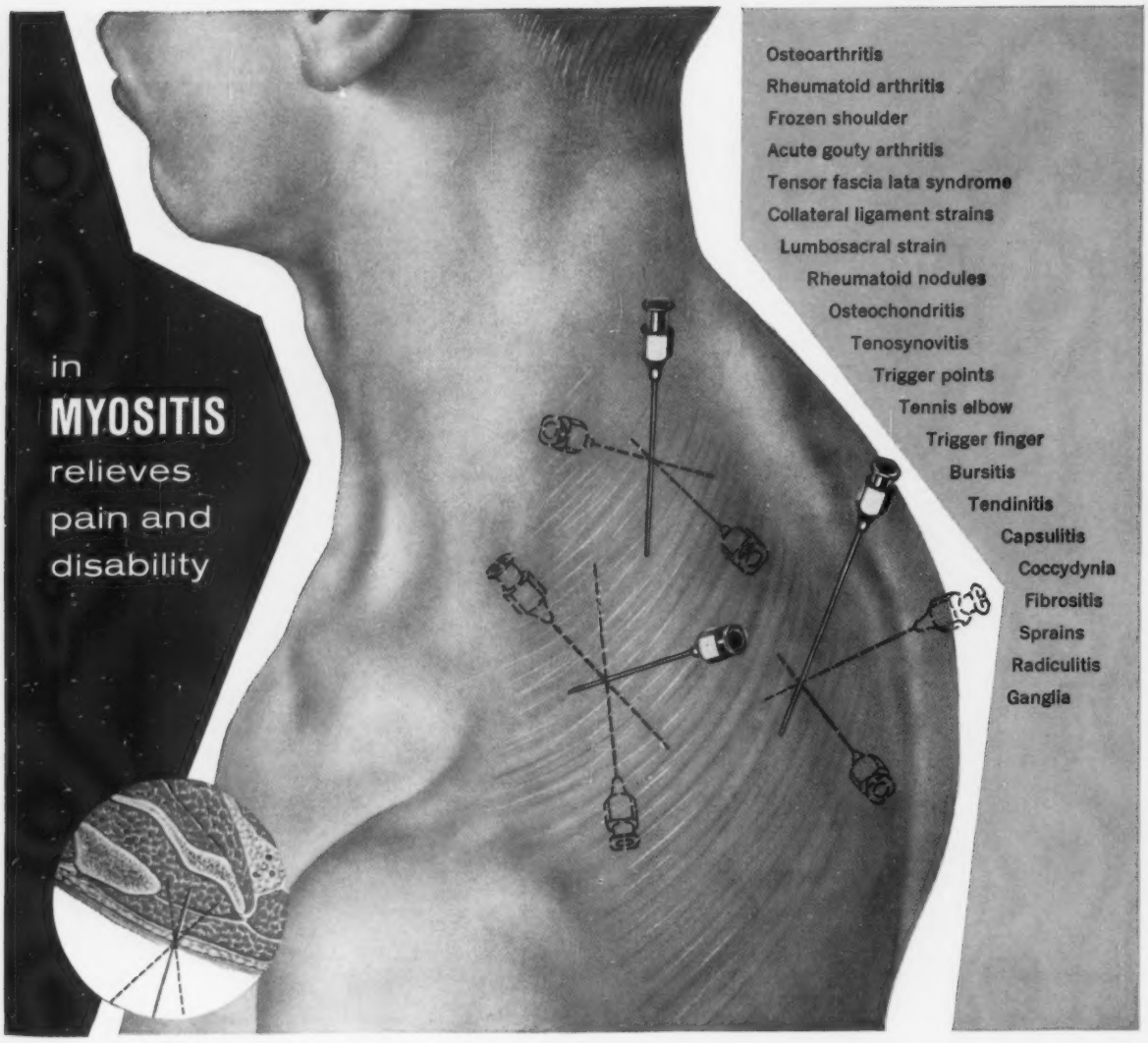

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INDUSTRIAL MEDICINE and SURGERY

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PERSONAL NEWS AND NOTES

Luther L. Terry, M.D.

LUTHER L. TERRY, M.D. was sworn in on March 24, 1961, for a four-year term as Surgeon General of the Public Health Service. Secretary ABRAHAM RIBICOFF administered the oath of office in a ceremony at the Department of Health, Education, and Welfare, attended by senior officials of the Department, the Public Health Service, and other government agencies.

DR. TERRY, whose appointment by PRESIDENT KENNEDY was confirmed by the Senate on March 2, succeeds LEROY E. BURNEY, M.D., who resigned January 30. DR. TERRY was Assistant Director of the Public Health Service's National Heart Institute at the time of his appointment as Surgeon General.

DR. TERRY has had broad experience in medical teaching, research, clinical medicine, hospitals, and community health activities. In addition to training activities within PHS, as at the Clinical Center of the National Institutes of Health and the PHS Hospital in Baltimore, DR. TERRY has been associated with Washington University, University of Texas, and Johns Hopkins University, in teaching medicine, preventive medicine, and public health. He has also served on NIH and NHI committees concerned with training, and research training grants.

His research work extends through many years and has been extensive and productive. He has been the author or co-author of more than 45 professional papers ranging from early studies on diseases such as meningitis, pneumonia, and brucellosis to research on therapeutic agents, malignant carcinoids, hypertension and other cardiovascular diseases; and subjects of current high scientific interest such as serotonin, and monoamine-oxidase inhibitors.

DR. TERRY has also been among those instrumental in the recently invigorated participation by PHS Hospitals in research activities. He is a member and past president of the PHS Clinical Society. For about 10 years, he served as Chief of Medical Service at the Baltimore PHS Hospital, in addition to his more recent duties with the NIH Clinical Center Medical Board.

Active participation in community affairs has also characterized DR. TERRY. Working in his home county and state with health departments, voluntary agencies in the TB and heart fields, and medical societies, he has served in such capacities as President of the D.C. Trudeau Society; member of the Board of Directors of the D.C. TB Association; member of the Montgomery County (Md.) Advisory Health Committee; member of the Medical Advisory Committee of the Montgomery County TB and Heart Association and its Board of Directors; and member of the American Heart Association.

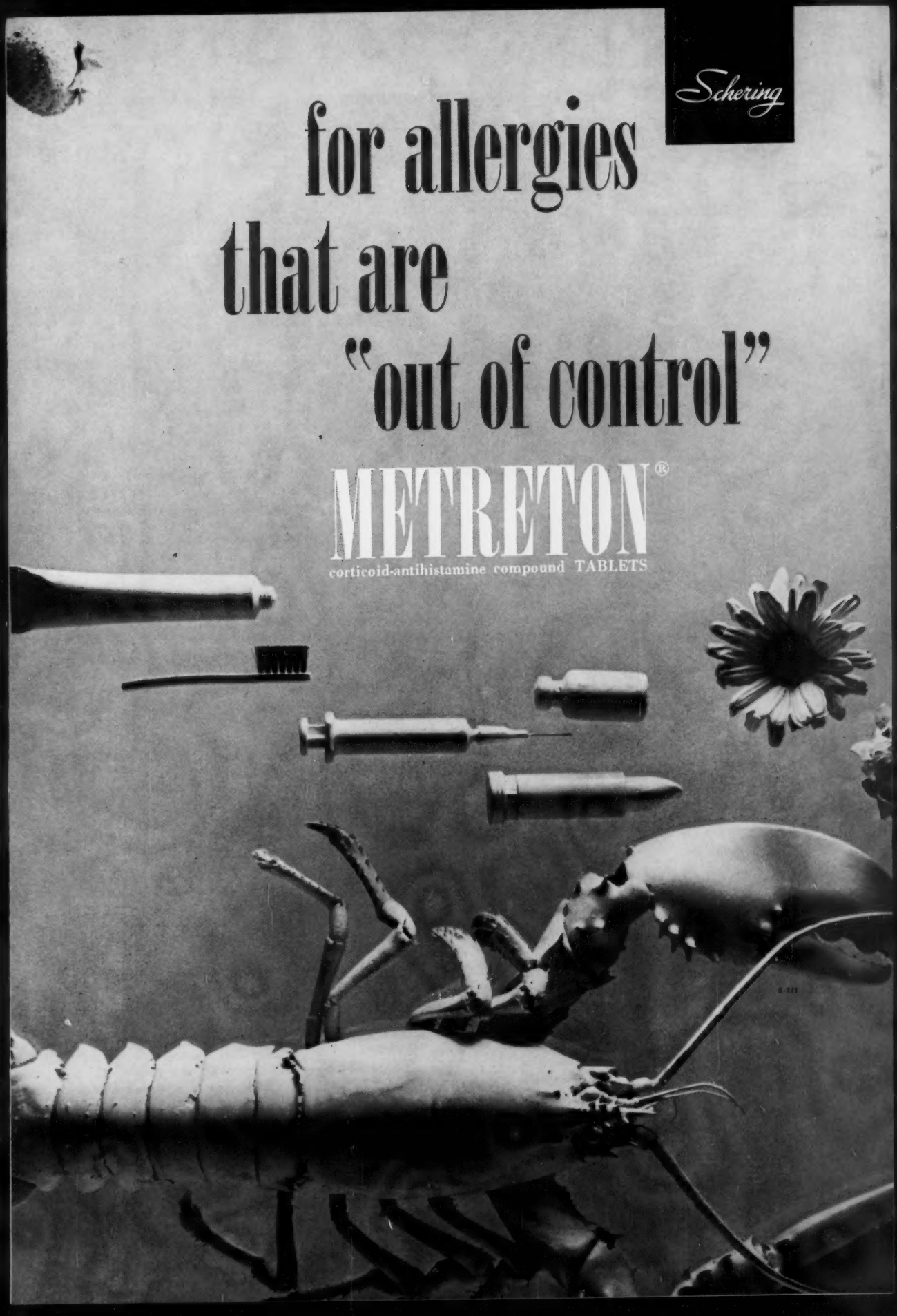
Special assignments have also provided DR. TERRY as a Service career officer with another kind of experience. These include service on the Medical Division of Strategic Bombing Survey to Japan; staff of the Subcommittee Investigating Malmedy Atrocities (Senate Committee on Military Affairs); NIH Cardiovascular Study Section; PHS Committee on Civilian Health Requirements; and the Advisory Committee on Nutrition of the Indian Health Service.

The Michigan Industrial Medical Association assembled in its annual meeting March 24, 1961, in Detroit, under the presidency of DUANE L. BLOCK, M.D. This association in its business session elected the following officers:

President: RICHARD D. MUDD, M.D., Medical Director, Chevrolet-Gray Iron Foundry, Saginaw. President-Elect: WILLIAM JEND, JR., M.D., Detroit. Vice President: HENRY J. KRUELEN, M.D., Grand Rapids. Secretary-Treasurer: ROBERT D. MC INTOSH, M.D., Ternstedt Division, General Motors Corp., Detroit.

G. J. KIDERA, M.D., (left), Medical Director of United Air Lines, is shown receiving the "President's Award," given to the company's outstanding employee of the year. The plaque was presented by W. A. PATTERSON, United's President, in recognition of "long-time service to the well-being of employees and valuable research in solving physiological problems."

United Air Lines Photo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James H. Sterner, M.D.

JAMES H. STERNER, M.D., Medical Director of Eastman Kodak Company, took office on March 16 as the first industrial physician to be elected President of the National Health Council.

GEORGE BUGBEE, President of Health Information Foundation, was chosen at the meeting as president-elect to succeed DR. STERNER in 1962. In the interim, MR. BUGBEE will head the Council's top level program planning committee.

DR. STERNER is a graduate of Pennsylvania State University and Harvard Medical School. In 1936, he joined the staff of the Eastman Kodak Company's Medical Department and was appointed Medical Director in 1951. He is Associate Professor of Medicine at the University of Rochester School of Medicine and is a Consultant in Industrial Health and a member of the advisory committee to the Division of Biology and Medicine, U. S. Atomic Energy Commission. He is chairman of the American Medical Association's Council on Occupational Health, vice chairman of the American Board of Preventive Medicine and is active in community health organizations in Rochester, N. Y., where he lives. DR. STERNER has received the Cummings Award of the American Industrial Hygiene Association, the Knudson Award of the Industrial Medical Association and the Award of Honor of the American Academy of Occupational Medicine.

Council President-Elect BUGBEE was graduated from the University of Michigan. In 1938, he was appointed Commissioner Superintendent of the Cleveland, Ohio, City Hospital, and in 1943, he was appointed executive director of the American Hospital Association. A fellow of the College of Hospital Administrators, MR. BUGBEE received the Award of Appreciation for Remarkable Achievement from the College in 1948.

Postdoctoral specialization in the field of environmental health is now being offered by the Institute of Industrial Medicine, New York University Medical Center, under a United States Public Health Service training grant. This program is designed to prepare persons with doctoral degrees in medicine, the medical sciences, or one of the basic sciences, for research and teaching careers in this field.

Fields of special interest include aerosol physics, physiology, environmental cancer, industrial toxicology, air pollution, radiological health, and radiation biology. Laboratory, epidemiological, and clinical studies will be involved. The training periods are expected to be of from one to three years' duration. Stipends are available and will vary with individual circumstances.

Application is invited from those who have recently completed their professional doctoral training, as well as those who have had some experience in the field and wish additional training. Backgrounds particularly suitable would include physiology, pharmacology, engineering, chemistry, biochemistry, physics, statistics, epidemiology, and medicine.

Inquiries should be directed to DR. NORTON NELSON, Professor and Chairman, Institute of Industrial Medicine, New York University Medical Center, 550 First Avenue, New York 16.

WILLIAM P. SHEPARD, M.D., Chief Medical Director of the Metropolitan Life Insurance Company, retired on April 1, 1961. He will open a limited consulting practice in industrial administration and public health education in New York City.

Russell G. Birrell, M.D.

RUSSELL G. BIRRELL, M.D., Medical Director of Imperial Oil Limited of Canada since 1947, retired on April 1, 1961.

After graduating in medicine from the University of Toronto and interning at the Ontario Hospital, DR. BIRRELL spent four years on the faculty of the Peking Union Medical College in China. He subsequently served on the surgical service of the Toronto Western Hospital, and obtained specialized training in physiotherapy and orthopedic surgery at the Hospital for the Relief of the Ruptured and Crippled, in New York City.

DR. BIRRELL joined the Medical Department of International Petroleum Company, Ltd. in 1928, serving at its hospital in Talara, Peru. Later, he was associated with the Medical Department of the Standard Oil Co. (N. J.) in New York City.

VALLIANT C. BAIRD, M.D. has been appointed to the newly created position of Medical Director in the headquarters organization of Humble Oil & Refining Company. DR. BAIRD has been Chief Physician of the company's Humble Division. In his new position, he will be responsible for coordination of all medical activities within the company.

A native of Stamford, Texas, DR. BAIRD first attended Southern Methodist University and then transferred to Tulane University, where he was awarded a Bachelor of Science degree in 1925. In 1928, he was graduated from Tulane's School of Medicine. Af-

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ter interning in New Orleans, he was an instructor at Tulane. In 1931, DR. BAIRD became the Assistant Medical Director of Standard Oil Company of Louisiana. He joined Humble in 1935 as Assistant Chief Physician and was named Chief Physician in 1944.

DR. BAIRD is certified in occupational medicine by the American Board of Preventive Medicine and is a fellow of the American College of Preventive Medicine. He is chairman of the Council on Industrial Health of the Texas Medical Association and is a fellow and member of the Council on Occupational Health of the American Medical Association. He is past president of the Texas Industrial Medical Association and has served as chairman of the Medical Advisory Committee of the American Petroleum Institute.

MAJOR GENERAL RICHARD L. BOHANNON, chief Air Force surgeon with the Pacific Air Forces for the past three years, will become Deputy Surgeon General, United States Air Force, in June.

DR. BOHANNON supervised the administration and operation of 14 Air Force hospitals and dispensaries at bases throughout Japan, Korea, Okinawa, Taiwan, and the Philippines. These facilities, assuring high quality medical care to 100,000 military personnel and dependents, are staffed by almost 3,000 physicians, dentists, nurses and medical corpsmen and approximately 160 board-certified physicians and surgeons. Proper working conditions for these medical people and superior facilities for the care of their patients have been the constant concern of DR. BOHANNON'S administration of the Air Force Medical Service in the Far East.

Major General Richard L. Bohannon

Acting on the knowledge that disease and death know no national boundaries, DR. BOHANNON has continued to sponsor the annual PACAF Medical Conferences initiated by his predecessor, MAJOR GENERAL O. K. NIESS, now Surgeon General, USAF. These conferences, attended by medical representatives from all friendly Asian countries, give each doctor an opportunity to share technical skills, scientific achievements, and ideas.

In recognition for his efforts in promoting harmonious relations with the peoples of the Far East and Asia, DR. BOHANNON has been honored by several countries.

DR. BOHANNON has served in the Medical Corps of the Army and of the Air Force for more than 26 years. He is a member of the American Medical Association, the Aerospace Medical Association, the Civil Aviation Medical Association, and the Industrial Medical Association. He is a diplomate of the National Board of Preventive Medicine (Aviation Medicine). A native of Dallas, Texas, he studied at Southern Methodist University and Baylor College of Medicine, where he graduated with the class of 1932.

GLEN USHER, M.D. has been appointed Medical Director of the Owens-Illinois Glass Company in Toledo, Ohio. DR. USHER received his medical degree from the Harvard Medical School, and an M. P. H. degree from Johns Hopkins School of Medicine in 1950. He was, for four years, Medical Consultant for the Public Health Service and, for three years, Chief of the Health and Sanitation Division, United States Operation Mission in Iraq. From 1955 to 1957, he was Chief Program Development Officer, Division of International Health, U. S. Public Health Service; from 1957 to the present, DR. USHER was Special Assistant, Communicable Disease Center, U. S. Public Health Service.

Occupational Medicine, a full-time course for physicians, will be given for eight weeks from September 8 through November 10, 1961, by the New York University Post-Graduate Medical School (course 481).

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Tuition for this course will be $375, plus $25 for field expenses. For further information write: Office of the Associate Dean, NYU Post-Graduate Medical School, 550 First Avenue, New York 16, N. Y.

Preliminary registration for the Third Inter-American Conference on Occupational Medicine and Toxicology, to be held in Miami August 6-10, 1961, indicates that participants will be coming from all parts of the United States, Puerto Rico, Venezuela, Chile, Cuba, Canada and Great Britain.

The conference, sponsored by the University of Miami School of Medicine, will be held in the Biscayne Terrace Hotel and will be conducted in Spanish and in English. Papers will be given in either language with simultaneous translation into the other.

Papers will cover administrative practices, environmental hygiene, ionizing and microwave (radar) radiation, noise, dermatology, antibiotics and other drugs, medicine in the tropics, pesticides, etc. There will be a special symposium on hypnosis, and one on radiation.

Chairman for the conference is WILLIAM B. DEICHMANN, Ph.D., Professor and Chairman of the Department of Pharmacology, University of Miami School of Medicine. Co-chairman is DR. JOSE R. VIVAS, Dean of the University of Puerto Rico Medical School.

Richard W. Stone, M.D.

RICHARD W. STONE, M.D., Assistant Medical Director in the New York Telephone Company has been put in charge of medical activities in the Bronx and Westchester Areas of the Company. He reports to KENNETH L. STRATTON, M.D., Medical Director, Manhattan-Bronx-Westchester. In addition to industrial medicine. DR. STONE'S postgraduate interests lie in the field of chest disease and pulmonary physiology.

DR. STONE graduated from the University of Wisconsin in 1945, and completed his internship at the University of Oregon's Hospitals and Clinics in Portland. Of his two years in the Army, one was spent in China. On his return from the service DR. STONE entered private practice. In 1950, he went to England to attend a postgraduate Medical Federation training course in London and the following year took up an Assistant Residency at the Massachusetts Memorial Hospital, Boston University. After a year as a USPHS Fellow in the hemodynamic laboratory at the same hospital, DR. STONE accepted an appointment as Research Assistant under DR. R. V. CHRISTIE at Saint Bartholomew's Hospital, London, England. On his return to the United States he had an appointment in the pulmonary laboratory at the State University of New York in Brooklyn. It was during this time that he became associated with the New York Telephone Company, joining the Medical Department as a part-time examining physician. At present, DR. STONE'S academic appointment is Assistant Professor of Clinical Medicine on the chest disease service of Cornell-New York Hospital Medical Center.

Died

DONALD VINTON BAKER, M.D., on February 23, 1961, in Boston, Mass. A graduate of Harvard College in 1908 and of the Harvard Medical School in 1912, DR. BAKER was for 30 years Medical Director of Lever Brothers. He was the founder, in 1916, of the Baker Clinic of Industrial Medicine in Boston.

LAURENCE A. DONDANVILLE, M.D., 68, Moline, Ill., on November 14, 1960. A chief division surgeon of the Rock Island Railroad, he was named "Doctor of the Year" by the Rock Island County Medical Society of which he had been president. He graduated from Northwestern University Medical School in 1924 and was a veteran of the first World War.

WALTER J. CONNELL, M.D., 68, of Farley, Iowa, on October 6, 1960. Formerly Director of the Department of Health in Dubuque, he served as Medical Director of the Industrial Hygiene Division of the Department of Health in Louisville, Ky. He graduated from the University of Illinois College of Medicine, 1919, and was a veteran of World War I.

WILLIAM B. HYDE, M.D., 71, of Durant, Miss., on October 1, 1960. DR. HYDE, a graduate of the Chicago College of Medicine and Surgery, was for many years local and district surgeon for the Illinois Central Railroad.

EDWARD N. ROBERTS, M.D., on October 31, at age 75, of myocardial infarction. A resident of Pocatello, Idaho, DR. ROBERTS was Chief Surgeon for the Union Pacific Railroad.

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SECOND NATIONAL CONGRESS ON ENVIRONMENTAL HEALTH

The Second National Congress on Environmental Health will be held June 6 through 8, 1961, at the University of Michigan School of Public Health, Ann Arbor, Michigan. Cosponsors of the Congress with the School of Public Health are the American Public Health Association and the National Sanitation Foundation.

The Congress is designed to provide an opportunity for representatives of industry, government, and the public to review the problems involved in controlling and shaping the external environment for optimal national development in the years ahead. To this end, 250 invited participants, including 100 from official and voluntary professional public health agencies and groups, 100 from industry, and 50 from the public at large, will have an opportunity to study the objectives of the Congress, which are:

"To explore environmental resources and their value and usefulness for man in terms of needs for industry, government, and conservation — in keeping with health, social, economic trends.

"To consider principles and methods of practice which will encourage a maximum development of our environmental resources for society."

Persons in industry interested in attending this Congress should communicate with H. E. MILLER, Director of Continued Education, University of Michigan School of Public Health, Ann Arbor, Michigan. Additional invitations to the Congress will be extended in the interest of maintaining a balance of types of industry represented among the participants.

PROGRAM

TUESDAY, JUNE 6, 1961

Welcome — MYRON WEGMAN, M.D., Dean, Michigan School of Public Health

Opening Statement — HENRY F. VAUGHAN, DR. P. H., President, National Sanitation Foundation

Man versus Environment — RENE DUBOS, Ph.D., Rockefeller Institute

Biological Aspects of Environment — THOMAS FRANCIS, M.D., Prof. of Epidemiology, Michigan School of Public Health

Chemical Aspects of Environment — ROBERT A. KEHOE, M.D., Director, Kettering Institute, University of Cincinnati

Physical Aspects of Environment — ABEL WOLMAN, DR. ENG., Prof. of Sanitary Engineering, Johns Hopkins School of Public Health

Social and Economic Factors Influencing Environment — JOSEPH J. SPENGLER, Ph.D., Prof. of Economics, Duke University

A Public View of Man versus Environment — HON. JOHN E. FOGARTY, Congressman from Rhode Island

WEDNESDAY, JUNE 7, 1961

Environment Needs for Industry

Power — WALKER L. CISLER, DR. ENGR., President, Detroit Edison Company

Paper — DWIGHT L. STOCKER, B.S., President, K. V. P. Sutherland Paper Company

Glass — ALEXANDER M. TURNER, A.B., and HERB BARNBY, M.S., Owens-Illinois Glass Co.

Food — CHARLES GLEN KING, Ph.D., Director, Nutrition Foundation and President-Elect, American Public Health Assoc.

Conservation — STANLEY A. CAIN, Ph.D., Prof. of Conservation, University of Michigan

Recreation — AYERS BRINSER, Ph.D., Prof. of Economics, University of Colorado

Agriculture and Related Land Resources — EDWARD A. ACKERMAN, Ph.D., Executive Officer, Carnegie Institution of Washington, and MARION CLAWSON, Ph.D., Director of Land Use Program, Resources for the Future, Inc.

Community Planning — ROBERT HOWES, Director, Division of Reservoir Properties, and A. J. GRAY, Community Planner, Government Relations and Economic Staff, Tennessee Valley Authority

Public Health — HERMAN E. HILLEBOE, M.D., Health Commissioner of New York State

The Federal Government — JOHN D. PORTERFIELD, M.D., Deputy Surgeon General, U. S. Public Health Service

THURSDAY, JUNE 8, 1961

Food and Drugs — HON. GEORGE LARRICK, D.SC., Commissioner, Food and Drug Administration

Freedom: The Cornerstone of American Life — ALBERT C. JACOBS, LL.D., President, Trinity College

Methodology for Industry — F. K. DOSCHER, Vice-President, Lily-Tulip Cup Corporation

Methodology for Government — LEONA BAUMGARTNER, M.D., Health Commissioner, New York City

Afternoon Discussional: Free Enterprise and Methodology in the American Way of Life

WALTER F. SNYDER, Director, National Sanitation Foundation

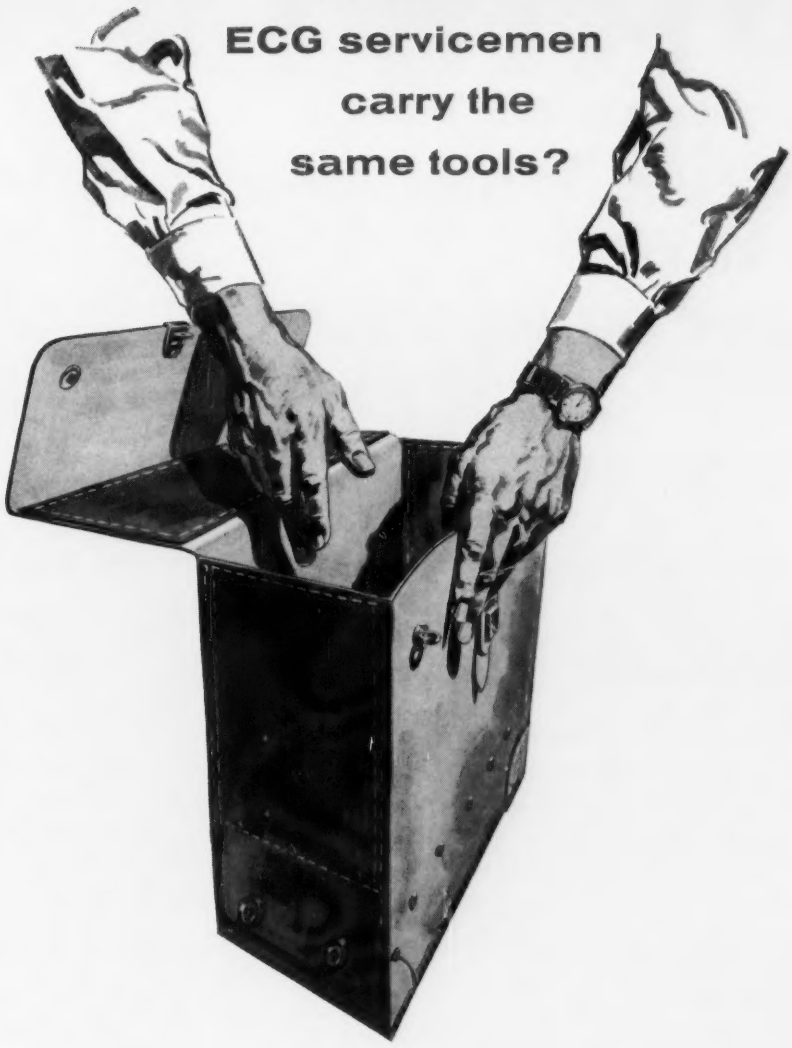
ROBERT J. ANDERSON, M.D., Deputy Chief, Bureau of State Services, U. S. Public Health Service

MARK HOLLIS, C. E., Chief Engineer, U. S. Public Health Service

DONALD GREENAWAY, Executive Vice-President, National Restaurant Association

DON NICHOLS, Chairman of the Board, Ahrens Publishing Company

do all ECG servicemen carry the same tools?



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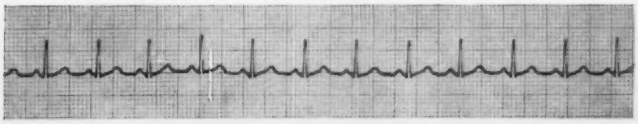

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1. Crawford, O. B.: Anesthesiology 14:278, 1953. 2. Wiedling, S.: Xylocaine, The Pharmacological Basis For its Clinical Use, Stockholm, Almquist and Wiknell, 1959.

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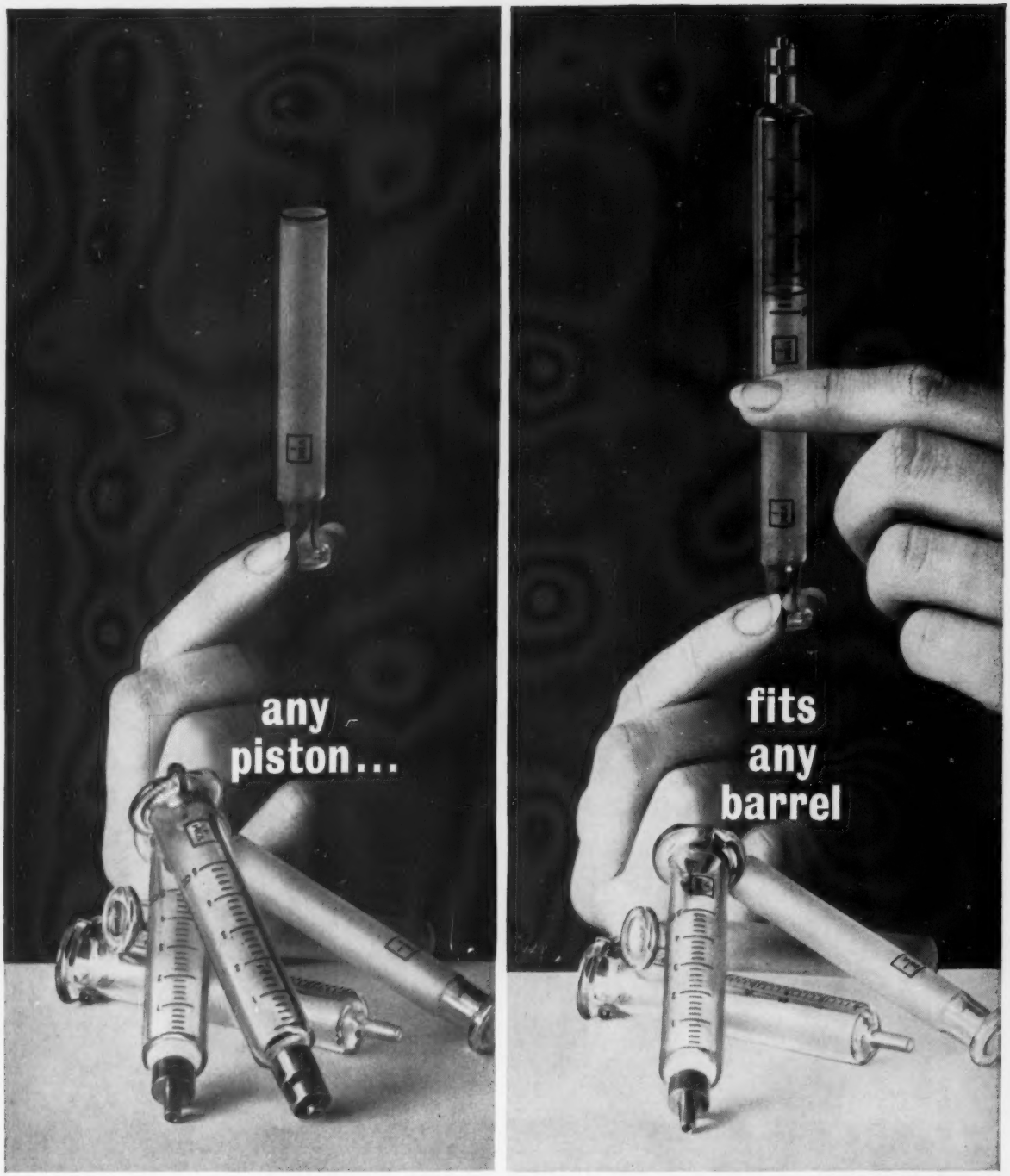

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Controls inflammation, curtails swelling, curbs pain

1. Teitel, L. H., *et al.:* Indust. Med. *29*:150, 1960. 2. Billow, B. W., *et al.:* Southwestern Med. *41*:286, 1960. 3. Beck, C., *et al.:* Clin. Med. 7:519, 1960. 4. Clinical Reports to the Medical Department, Armour Pharmaceutical Company, 1960.

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Chymoral is an ORAL anti-inflammatory enzyme tablet specifically formulated for intestinal absorption. Each tablet provides enzymatic activity, equivalent to 50,000 Armour Units, supplied by a purified concentrate which has specific trypsin and chymotrypsin activity in a ratio of approximately six to one. ACTION: Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renal origin; hastens absorption of blood and lymph extravasates; helps to liquefy thick tenacious mucous secretions; improves regional circulation; promotes healing; reduces pain. INDICATIONS: Chymoral is indicated in respiratory conditions such as asthma, bronchitis, rhinitis, sinusitis, in accidental trauma to speed absorption of hematoma, bruises, and contusions; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions such as pelvic inflammatory disease and mastitis; in obstetrics as episiotomies and breast engorgement; in surgical procedures as biopsies, hernia repairs, hemorrhoidectomies, mammectomies, phlebitis and thrombophlebitis; in genitourinary disorders as epididymitis, orchitis and prostatitis; in dental and oral surgery as fractures of the mandible or maxilla, difficult or multiple extractions, and alveolectomies. CONTRAINDICATIONS: None known. INCOMPATIBILITIES: None known. Antibiotics as well as generally accepted measures may be coadministered. SIDE EFFECTS: Mild gastric upsets, rarely encountered. DOSAGE: Recommended initial dose is two tablets q.i.d.; one tablet q.i.d. for maintenance. SUPPLIED: Bottles of 48 tablets.

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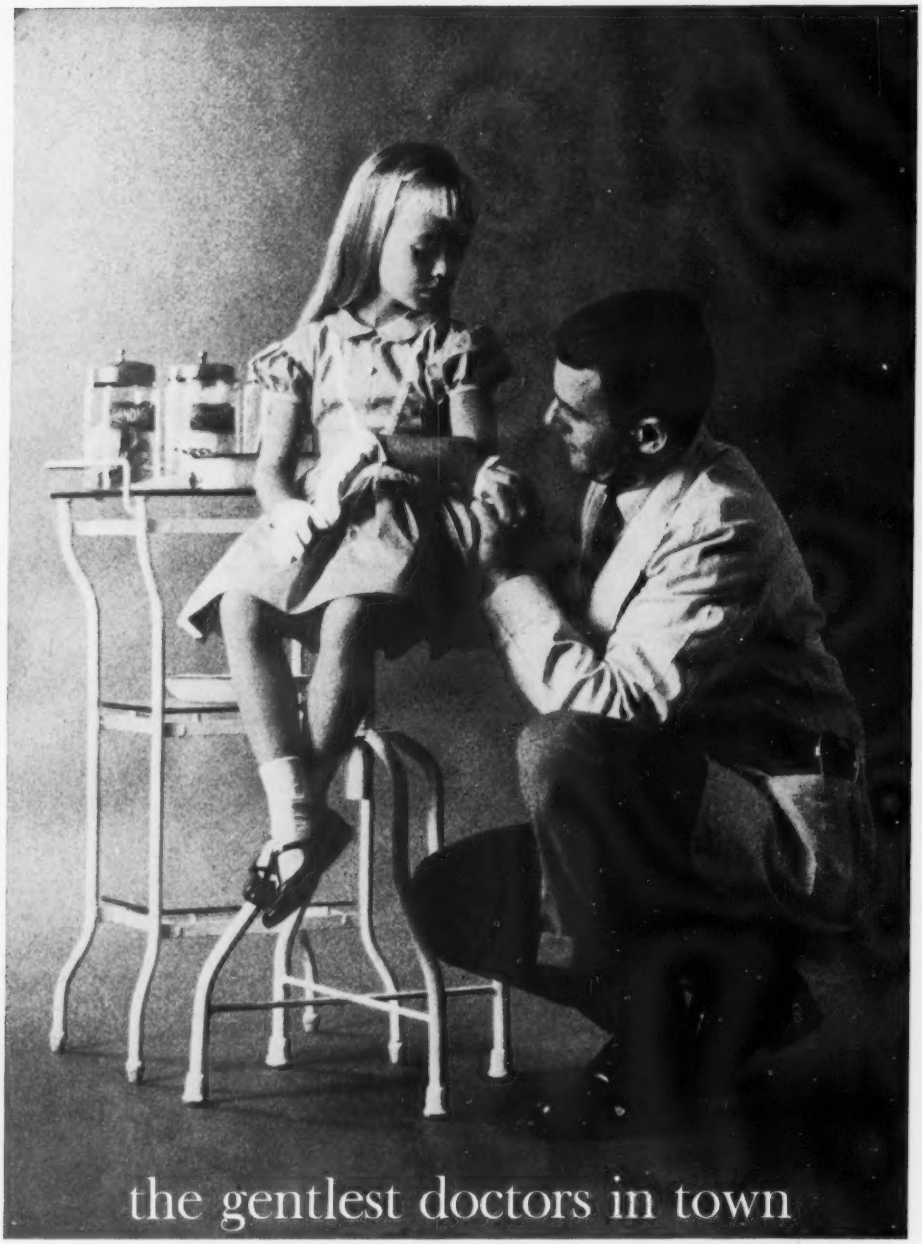
CHYMORAL

ORAL systemic anti-inflammatory enzyme tablet



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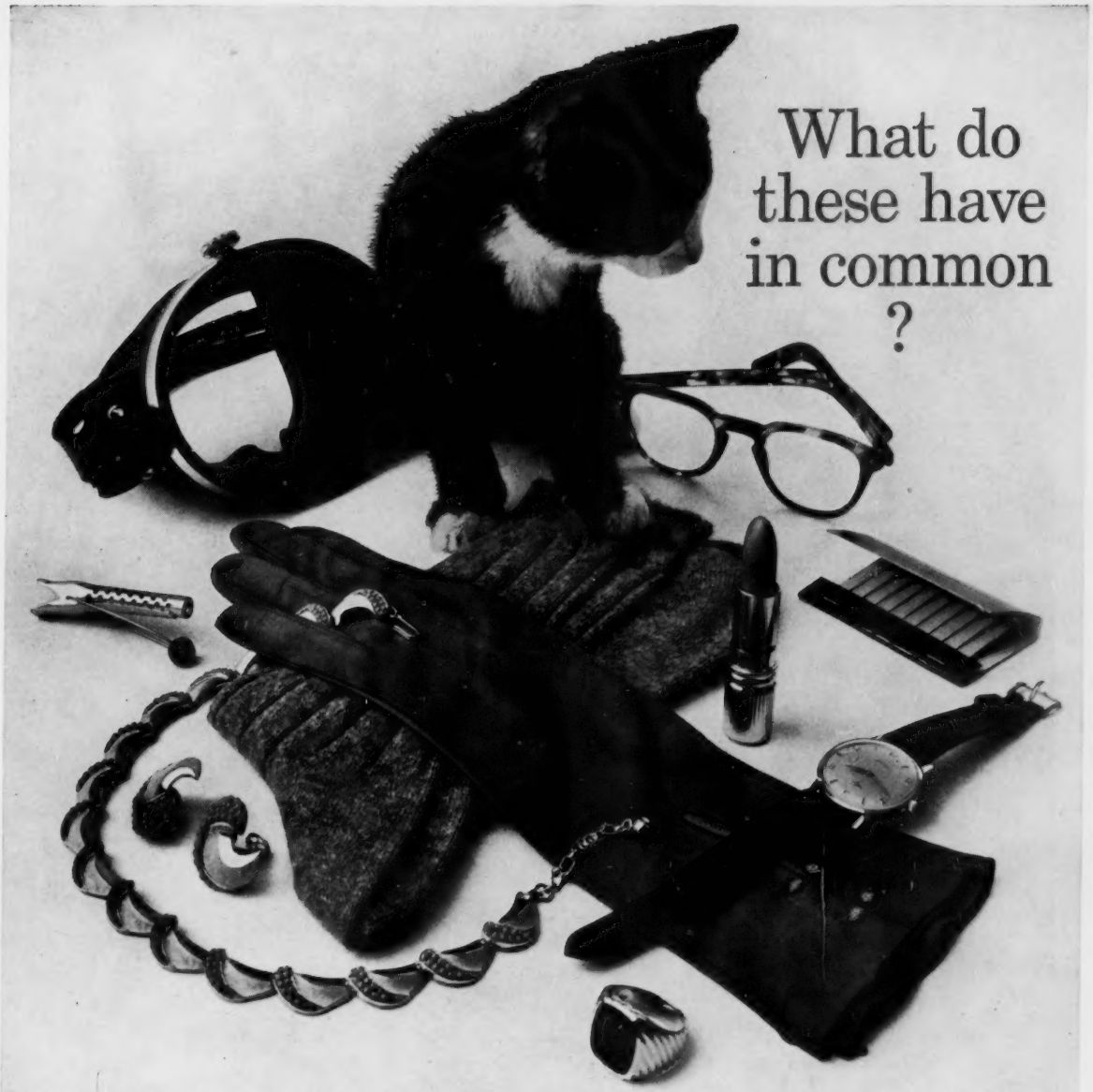

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Kenalog-S—when bacterial infection threatens or complicates; Mycolog—for skin conditions caused or threatened by bacterial and/or fungal infection.

Supply: Kenalog Cream 0.1%—5 Gm. and 15 Gm. tubes. *Kenalog Lotion* 0.1%—15 cc. plastic squeeze bottles. *Kenalog Ointment* 0.1%—5 Gm. and 15 Gm. tubes. *Kenalog Spray* 50 Gm. and 150 Gm. containers of 3.3 mg. and 10 mg. triamcinolone acetonide, respectively.

Kenalog-S Cream 5 Gm. and 15 Gm. tubes.

Kenalog-S Lotion 7.5 cc. plastic squeeze bottles. *Kenalog-S Ointment* 5 Gm. and 15 Gm. tubes. Each gram supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base (as sulfate) and 0.25 mg. gramicidin.

Mycolog Cream and Ointment 5 Gm. and 15 Gm. tubes. Each gram supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base (as sulfate), 0.25 mg. gramicidin and 100,000 units nystatin.

For full information, see your Squibb Product Reference or Product Brief.

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Squibb Triamcinolone Acetonide in a vanishing cream base.

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SQUIBB *Squibb Quality—the Priceless Ingredient*

With PHENAPHEN 'ROBINS' for medical relief of pain—

"THE AMOUNT OF LOST TIME ...WAS GREATLY REDUCED"

*— reports this industrial physician**

In his recent on-the-job study of pain relief in industrial practice, Murray* observed that:

1. Phenaphen is more effective than a standard aspirin-phenacetin-caffeine formula for relief of moderate to severe pain . . .

2. Phenaphen is free from side effects despite its greater analgesic action . . .

3. Phenaphen is safe for machine operators since it is free from soporific effects, and thus permits returning to work or driving home with complete safety . . .

4. The superiority of Phenaphen is shown by the fact that "the amount of lost time . . . was greatly reduced."*

Formula: Each capsule contains:

Acetylsalicylic acid (2½ gr.)	162 mg.
Phenacetin (3 gr.)	194 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine sulfate (1/2000 gr.)	0.031 mg.

Dosage: One or two capsules as required. In industrial practice, Murray noted that "because of the complete absence of side effects, it is justifiable to increase the medication to two tablets every four hours."*

Supply: Bottles of 100 and 500 capsules.

*Dr. R. J. Murray, Medical Dept., Sperry Gyroscope Co., in an article published in the New York State Journal of Medicine, August 15, 1953 (Vol. 53, No. 16).

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Robins

— superior analgesic for ambulant patients
*—"satisfactory for everyday industrial use"**

For more severe pain, Phenaphen is also available with varying dosages of codeine added to the basic formula, providing greater analgesia, free from the habituation hazards of addicting narcotics, as:

PHENAPHEN WITH CODEINE PHOSPHATE ¼ GR. *(Phenaphen No. 2)*

PHENAPHEN WITH CODEINE PHOSPHATE ½ GR. *(Phenaphen No. 3)*

PHENAPHEN WITH CODEINE PHOSPHATE 1 GR. *(Phenaphen No. 4)*

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in the package—after filling—
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now in sizes to meet most parenteral needs
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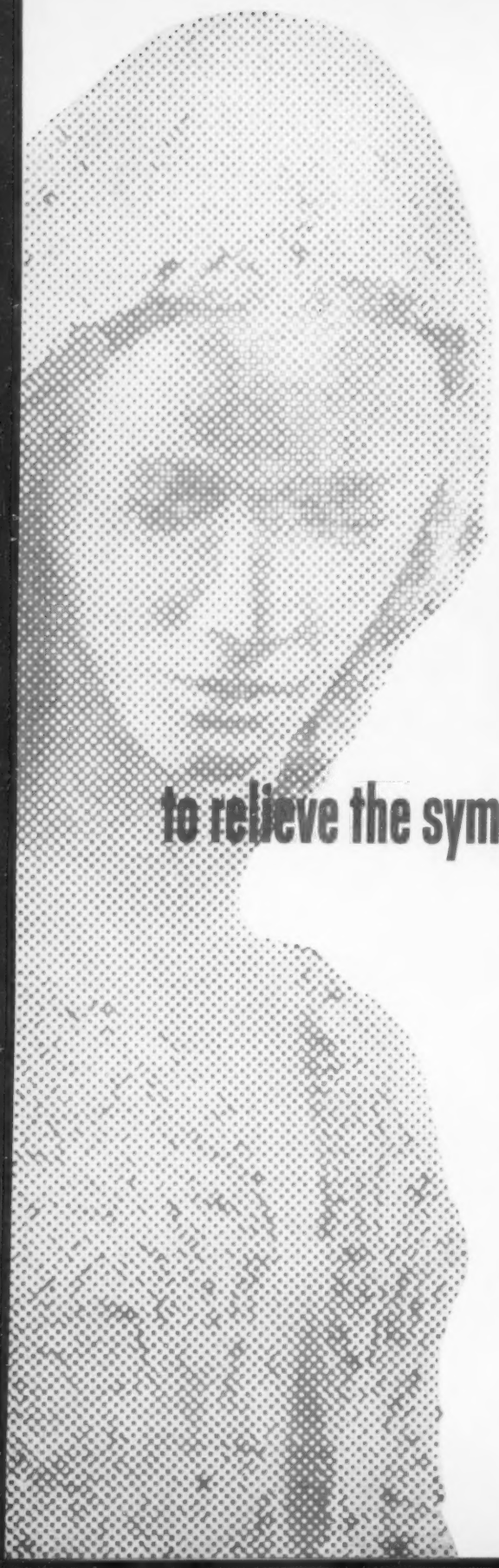

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HYDRODIURIL® WITH MEPROBAMATE
HYDROCHLOROTHIAZIDE

to relieve the symptoms of premenstrual tension

for EDEMA . . . **CYCLEX provides the prompt diuresis of HYDRODIURIL for rapid reduction of weight gain, breast fullness, abdominal congestion**

for MOOD-CHANGES . . . **CYCLEX supplies the effective relief of meprobamate for nervousness, irritability, tension, nausea, malaise, insomnia**

for GI DISTRESS . . . **CYCLEX affords quick-acting relief of nausea and bloating associated with premenstrual tension**

SUPPLIED: **Tablets, bottles of 100. Each tablet contains 25 mg. of HYDRODIURIL (hydrochlorothiazide) and 200 mg. of meprobamate.**

DOSAGE: **Usual adult dosage is one tablet once or twice a day, beginning on the first morning of symptoms and continuing until the onset of menses. CYCLEX may be continued through the menstrual period.**

Before prescribing or administering CYCLEX, the physician should consult detailed information on use accompanying package or available on request.

CYCLEX and HYDRODIURIL are trademarks of Merck & Co., INC.

MSD

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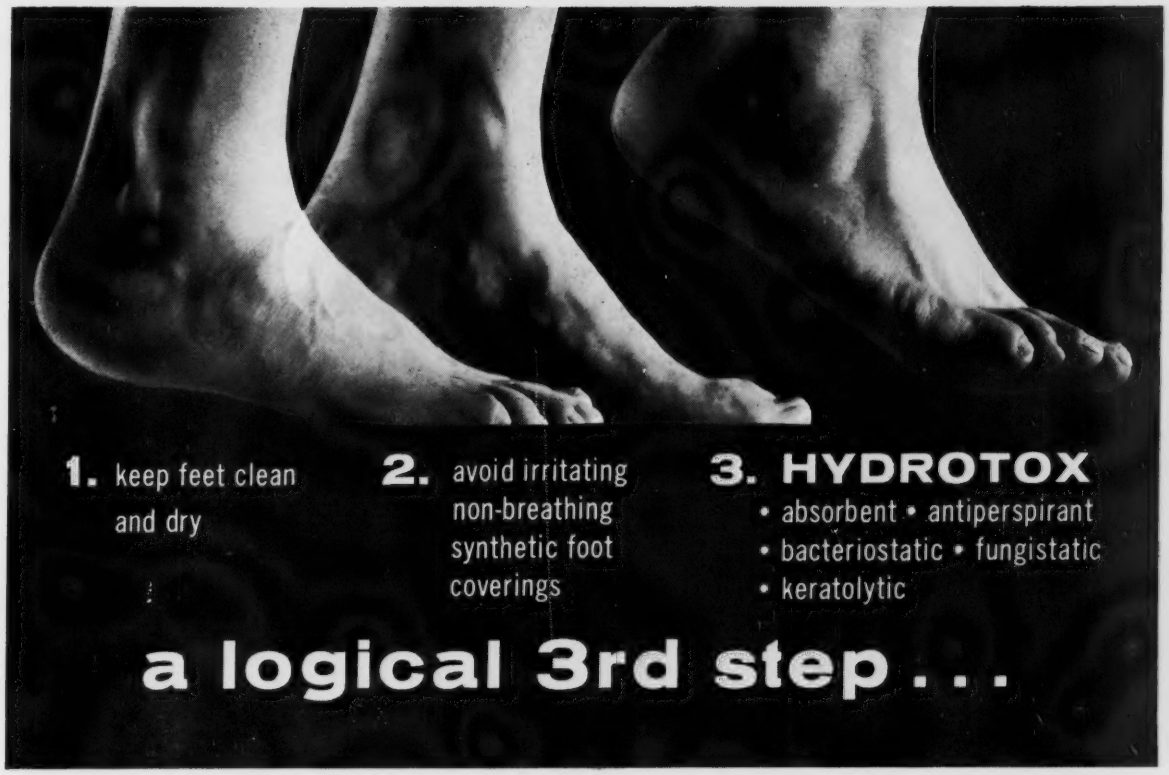
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. . . is a balanced formula of widely useful components for the treatment and prophylaxis of common superficial fungal infections. A highly useful adjunct in maintaining conditions unfavorable to continued proliferation of fungi, HYDROTOX is soothing, non-irritating, non-sensitizing, and non-abrasive. Administration: Control and treatment of fungal infections require two entirely different products and formulae which are available to your patients with HYDROTOX.

Hydrotox Dry Spray Powder is applied liberally in the morning to infected and adjacent areas, and to socks and shoes as a precaution against re-contamination.

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For control of athlete's foot in industrial installations, send for free informative literature

Formulae and Supply:

Hydrotox Ointment is supplied in a 1½ oz. heat-sealed tube containing the following active ingredients: Hexachlorophene 0.3%, Precipitated Sulfur 3.0%, Salicylic Acid 3.0%, Undecylenic Acid 2.5%.

Hydrotox Dry Spray Powder is supplied in a 3 oz. plastic bottle containing the following active ingredients: Salicylic Acid 2.0%, Zinc Stearate 3.0%, Boric Acid 6.0%, Alum, exsiccated 1.0%.

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a thousand and one uses

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Packing for nose, ear canal, or eye socket; submucous resection, rhinoplasty, ocular evisceration or other surgical intervention, nasal hemorrhage.

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Circumcisions, finger dressings, hand surgery, podiatric applications, small-area burns, pilonidal cysts, small packings.

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Burns, dermabrasion, traumatic wounds, eschar removal, abrasions, compound fractures, amputation stumps, urological and proctological work, and many other surgical procedures p.r.n.

3" x 36" Strip
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When a larger dressing is needed for the indications above.

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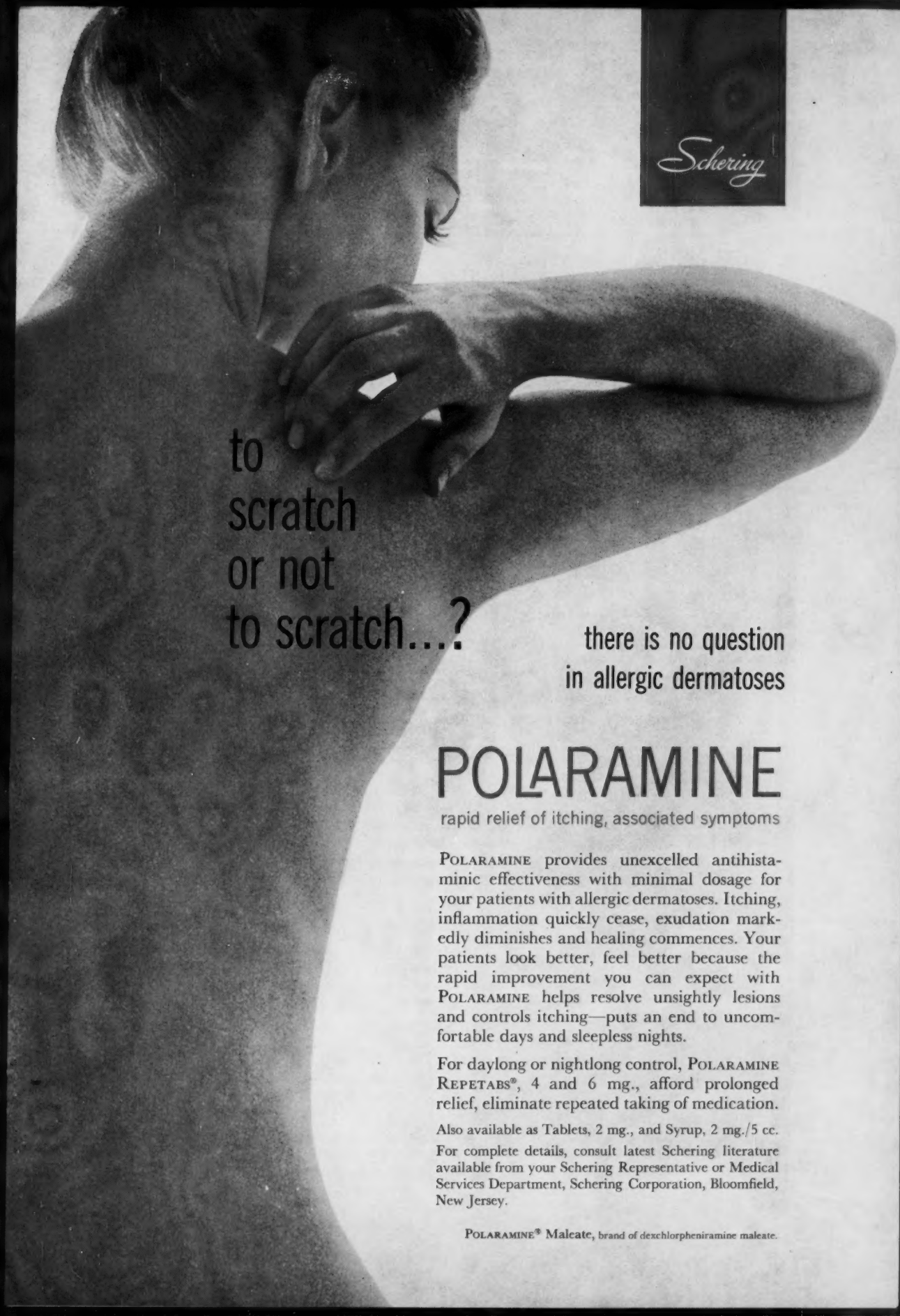

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Also available as Tablets, 2 mg., and Syrup, 2 mg./5 cc.

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relief from
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Zimmerman, K., *et al.*: The Use of Darvon Compound after Anorectal Surgery, Am. J. Surg., *99*:316, 1960.

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Both products combine the analgesic advantages of Darvon® with the antipyretic and anti-inflammatory benefits of A.S.A.® Compound. Darvon Compound-65 contains *twice* as much Darvon as regular Darvon Compound without increase in the salicylate content or the size of the Pulvule®.

Formulas:

Darvon Compound		Darvon Compound-65
32 mg.	Darvon	65 mg.
162 mg.	Acetophenetidin	162 mg.
227 mg.	A.S.A.®	227 mg.
32.4 mg.	Caffeine	32.4 mg.

Usual Dosage:

Darvon Compound: 1 or 2 Pulvules three or four times daily.

Darvon Compound-65: 1 Pulvule three or four times daily.

Darvon® Compound (dextro propoxyphene and acetylsalicylic acid compound, Lilly)
Darvon® (dextro propoxyphene hydrochloride, Lilly)
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IMS

CARDIACS AT WORK

A Conference on the Heart in Industry

McGregor Memorial Center, Wayne State University, Detroit, Michigan

The medical profession, of course, must wage the primary technical battle in the front lines. During recent years, medical science has made spectacular advances against heart disease. These advances have made it feasible to re-employ people whose heart disabilities would once have foreclosed their careers and denied them a realization of productive life.

To capitalize on these medical achievements, business and labor share an equal responsibility for vigorously promoting health education and, more fundamentally, facilitating the return to useful employment of those already stricken. At one time, a cardiac diagnosis was interpreted virtually as a "death sentence" both by the victim and the employer. But we now are entering a period of enlightenment, thanks to meetings such as this in which improved therapy is recognized as giving the great majority of heart patients a chance to live out their normal life span.

Labor and management must work in partnership to insure that heart patients are salvaged for constructive work whenever possible. We should do everything in our mutual power to reassign employees with this affliction to jobs which do not endanger their health, which satisfy both their personal needs and those of the business.

In some cases, of course, such personnel reassignments will clash with long-standing labor practices such as seniority. My plea is that we refuse to let our thinking become rigid or static in these areas and that we collaborate to find ways of reclaiming these priceless human resources.

One highly effective action against heart disease in business is the so-called "well man" examination; a form of preventive maintenance which, if you please, has gained wide adherence. Other programs of this nature must be conceived and put into play, both by management and labor to re-enforce the efforts of the medical profession.

—RAY R. EPPERT
President
The Burroughs Corporation

Conference Sponsored by

THE MICHIGAN HEART ASSOCIATION

with the cooperation of

Detroit Industrial Nurses' Association

Greater Detroit Board of Commerce

Michigan Industrial Medicine Association

Michigan Manufacturers Association

Personnel Division of

American Motors Corporation

Chrysler Corporation

Ford Motor Company

General Motors Corporation

Keynote Address

• OGLESBY PAUL, M.D.
Chicago, Illinois
President-Elect
American Heart Association

Rehabilitation of the Cardiac Patient

Quoting from the report of the Commission on Medical Care Plans which was published by the American Medical Association in January of 1959: "Rehabilitation implies the effective use of all disciplines and skills dedicated to the conquest of disability." Aside from great benefit to the disabled, their families and to society, current experience has amply demonstrated that the provision of rehabilitation services results in substantial savings in both medical and indemnity costs, just as the development of medical care provisions has resulted in savings in indemnity payments.

The recent laudable publicity given to the concept of rehabilitation has blinded us to the fact that intelligent physicians, lay men and lay women have known about the practice and advocated rehabilitation of the disabled for a long, long time. Let me read you a few excerpts from a paper entitled "The Problems of the Chronic Cardiac Cripple — A General Survey." Referring to the role of Heart Associations, the author writes, "They desire to educate doctors, patients and the public to a knowledge (1) that in some measure, heart disease may be prevented; (2) that to a large degree, an early cardiac breakdown may be forestalled; (3) that a single breakdown does not necessarily spell disaster, future invalidism or early death; (4) that knowledge of the nature of the illness with readjustment of living and working conditions may often transform the cardiac cripple from a tremulous, dependent invalid into a wage earning, self-respecting citizen."

Also, from the same article, "The public must be made to see that the heart problem is not simply one of how best to care for a hopeless invalid, not simply one of charity and kindheartedness, must be made to see as well the sociologic and utilitarian aspects, and also all this implies — education and what is commonly called propaganda."

These few sentences are selected as good evidences of the keen mind and clear vision of Dr. James B. Herrick, who wrote them in 1925 in the *New York State Journal of Medicine.*

Participants in Rehabilitation

Let us look for a few moments at those individuals or groups in our society who, by their conscious effort, or by instinct, become active participants in this process of rehabilitation. Surely the first of these is a patient himself or herself. We talk about patient cooperation and working singularly, in groups or teams with the patient. It is often the patient who does the job alone, or almost alone, who prods the physician into action, who ferrets out community services, and who ends up living a useful existence by sheer persistence and determination.

I think of a 44 year old housewife whose life has been filled with tragedy. A rheumatic with atrial fibrillations, she suffered a cerebral embolism four days after her marriage and so

horrified her husband that he disappeared that very night and was never heard from again. Two years later she remarried, later became pregnant and almost succumbed to pulmonary edema. Despite a hemiparesis, despite chronic congestive heart failure which would not permit her even to lie down at night so that she had to sit up in a chair all night, night after night, and with very little assistance from her physician, she learned to live with her disease and care for her husband and her daughter. She was an effective housewife and mother. We saw her seven years ago when her daughter had reached the age of three, and found her heart to be enormous, one of the largest I have ever seen, extending from axilla to axilla, with severe involvement of the mitral, tricuspid and aortic valves.

A mitral commissurotomy was done rather reluctantly but fortunately with real benefit and she is still going along, a useful member of the community, assisted now by clinic services and the Visiting Nurse Association. Her recovery, such as it was, from a series of mishaps, was largely her own doing, and we should pay tribute to the comparable courage and will to live which drives so many others away from invalidism and back into useful living.

Aside from the patient, the family physician is, in most instances, the key person in determining the start, continuation, and degree of rehabilitation. We must not lose sight of this fact, for despite the value to society of multidiscipline and team approaches, the fact remains that many, and indeed most health problems, characterized by threatened or actual physical disability, will be handled only on the basis of a single doctor-patient relationship. I am of the view that, on the whole, this relationship is a satisfactory one and a vast amount of purposeful and well-directed rehabilitation is accomplished by the family physician.

One such example is that of a patient, now 63 years of age who first saw her physician 10 years ago because of congestive heart failure, secondary to rheumatic heart disease. She was employed as a buyer by a large department store but had become so disabled that she had to give up work. With encouragement, guidance and help in her way of life from her doctor, with skillful use of low sodium diets, diuretics, digitalis and rest, she recovered sufficient compensation to return to work and carried on for nine more years. Six months ago, her husband, who had always been thought to be the healthy partner, dropped dead from a myocardial infarction. She now lives in tolerable health in retirement.

The medical specialist enters into the area of rehabilitation often in a critical fashion, particularly in regard to accurate diagnosis. I find that the public has a great deal of misunderstanding regarding the role of the specialist as a consultant in the case of a difficult, unclear, uncommon or complicated medical problem. The patient or his family have every right to request consultation under such circumstances and it is usually to the advantage of everyone, including the family physician, to do so. Yet because of fear of "medical ethics" such services are not obtained. The early rehabilitation of many such cardiovascular cases can be furthered by the thinking and experience of not one but two medical minds.

I recall a case of a 19 year old girl who, because of a diagnosis of rheumatic heart disease, had gone through school without participation in any sports, without even being allowed to ride a bicycle or dance. Set apart from her classmates and limited in her social contacts, she arranged with her physician for consultation with a specialist so as to determine whether she might enter college and if so, could she hope to benefit from such an experience.

The specialist determined that she had only an innocent heart murmur, that no organic heart disease was or ever had been present, and by tact and guidance saw to it that the young lady resumed a full and normal life and entered college on a par with her classmates. A brief investment in time and a limited investment in dollars brought a great and permanent return.

The company physician has a key role in the process in rehabilitation, a role in which he is not always free to act as he alone may see fit, because of necessity and indeed, desirability of working with personnel departments, top management, and union representatives.

The Commonwealth Edison Company in Chicago has an admirable scheme to help the sick worker back on the job. It sets up a conference group to discuss each individual major medical problem. This group consists of a company doctor, a personnel department representative, and the man's own foreman. With the leadership and professional knowledge of the company physician, and with the facilities of his department, this company can usually arrange to plan to work with the worker's own physician and carry on a sound program of rehabilitation on the job with employment suitable to the individual's mental and physical capacities.

Where the plant is a small one and no well-organized medical department exists, the industrial physician must often rely on consultation and guidance from others and the use of community facilities to achieve the same purpose.

Community facilities of many types designed to further the philosophy and practice of rehabilitation are indeed one of the notable assets

of our civilization. Hospital clinics, rehabilitation centers, including institutes and departments, work evaluation and vocational guidance units, visiting nurses' association, the Office of the Division of Vocational Rehabilitation, the Division of Services for Crippled Children and many other federal, state, county, municipal, and voluntary groups should be mentioned.

It is here that the Heart Association can play a particular and critical role. It is in a unique position to estimate the total picture, determine where weaknesses and gaps exist, work to fill such gaps by demonstration or persuasion of others and serve to coordinate the total program for the benefit of the patient of cardiovascular disease. I believe that the voluntary health association does not always appreciate its potential in this regard. In it, if used with discretion and diplomacy, yet with firmness, lies the capacity for community leadership, a leadership which the public supports and expects and which the public can admire and applaud.

We may ask, if all these fine people and facilities exist, why is there any problem? Let us take a quick look at the other side of the coin.

Factors Which Discourage Rehabilitation

First, we must acknowledge that not all cases of cardiovascular disease can be rehabilitated to the point of achieving economic self-sufficiency. The extent of organic disease in some patients is such as to preclude participation in useful work and even to make mere existence tenuous and uncertain. And I think of the patient whom I saw recently, age 63, who has coronary heart disease and in whom angina, including angina decubitis, is such a problem that gainful employment is just out of the question for him at this time. The problems of transportation alone are such to have made retirement inevitable.

Second, we must admit that as a result of organic disease, and its effects, some patients become so disturbed and permanently disabled by fear, apprehension, and insecurity that gainful employment cannot be achieved. I think here of a patient, a former streetcar conductor, who in 1950 had a posterior wall myocardial infarct from which he made a good physical recovery. Despite urging by his physician, despite being offered suitable employment by his company, despite many factors which would ordinarily be considered favorable and despite the efforts of many, this individual has remained a permanent cripple, fearful of his disease and unable to return to work.

Third, we must concede that not all companies can fit in a worker with a cardiovascular disability. Due to size or type of manufacturing or other activity, the firm may find itself without any suitable job for a man who has had evidences of significant and limiting heart or vascular disease. I have a patient now, age 59, who has been working for an insurance company for some 30 years. His work has involved collecting premiums which means going out in the community in a certain local area and visiting various of the policyholders to collect these premiums. This involves walking up a good many flights of stairs and covering a considerable distance. Unfortunately, last December, he suffered a myocardial infarct, complicated by congestive failure, and was very ill. He has now improved to the point where he can walk two to three blocks without having angina, should technically be able to hold down a job in an office where he could do clerical or telephone work but is not, at this time, up to going out, particularly in a Chicago winter, and carrying on his former duties.

I have attempted to get him employment in this company, which is one of the largest in the country, and which is very actively interested in rehabilitation. I have been informed by them that there is no office work available for this man, that if he cannot go out at his old job, there is nothing available and that they would prefer that he remain on a disability payment plan indefinitely rather than being returned to work. It is difficult for a person like this who is 59 and who has known organic heart disease to get employment in another firm.

Fourth, we must recognize that at times, restrictive policies of labor unions conspire to penalize the man with heart disease and make it impossible for him to return to work. This chiefly involves considerations of seniority and freedom of transfer within a company. I think of a man who was working for one of our railroads who was in charge of the work gang that, particularly in winter, had the job of clearing the switches, keeping ice off of the switches and shoveling local areas in the track. His work required, therefore, an unusual exposure to cold, wind, wet weather, snow, and ice. The temperatures at times were as low as 20 to 25 degrees below zero.

During an episode of a very severe pneumonitis, he had a rather uncommon complication. He apparently had a myocarditis associated with transient congestive failure from which he made a satisfactory recovery. It was suggested that he return to work on the railroad, but work that involved the exposure to the elements and the rather heavy physical work which at times was required was unsuitable for him. The union refused to allow him to return to any work except that which he had been accustomed to doing.

Because of the freezing of this position, the man was unable to return to any employment and consequently has been pensioned off.

Fifth, we must acknowledge that at times, poor handling of the case by a physician can so set a pattern of invalidism that subsequent efforts of rehabilitation are totally fruitless.

Two weeks ago, I saw a man, now age 59, who 20 years ago was told he had a heart attack. Since that time, he has been on the shelf. He has done no work, he has been subsisting due to the efforts and the funds of relatives and, at present, he is being supported by a son-in-law. A pretty careful study of this individual gave no evidence of significant heart disease. An electrocardiogram showed a right bundle branch block, he had normal heart size; his story did not indicate the presence of angina, there was no arhythmia and there was no evidence of congestive heart failure. After pretty careful scrutiny, it was recommended that he could return to an essentially normal life. He said, "You mean that I can dry dishes?" and when he was told that he could not only dry dishes but he could wash them and do certain other things, he was quite amazed. I doubt if we will ever get this man, after 20 years of subsistence on other people, to do very much. This is probably too much to expect.

Sixth, we must accept the fact that at times the law of compensation is greater than the desire or will to work. This is something that will doubtless be discussed later.

Seven, we must regretfully acknowledge that the courts have often by their precedent set up major road blocks to the hiring of the men and women with heart disease. I recognize that this is a complex and difficult problem. I recognize that this requires a distinction by the courts between the qualified medical witness and the unqualified medical witness. I think that the courts often are not sufficiently cognizant of the widespread implication and application of their decision to human problems.

Finally, we must recognize that behind the reluctance of some employers to hire cardiac cases is not an insurance problem or job availability but a lack of understanding of heart disease, rehabilitation, the economic aspects of disease and, often, an emotional barrier based on childhood or other images of the person who is "not quite right."

Summary

I have tried very briefly here to review some of the facilities, some of the activities in our community which favor the resolution of problems in rehabilitation. I have very briefly reviewed certain of the less favorable aspects of community life which make the handling of rehabilitation problems difficult. When one adds all this together, I think it is apparent that despite the road blocks we actually are doing steadily better, that there is increasing understanding and comprehension of the need for rehabilitation; and I think that the subsequent presentations will make it clear that real advance and progress have been made.

The Costly Time Lag

The Costly Time Lag, a publication containing facts about the unnecessary loss of life, health, and money that results from failure to use new research findings, was released today by the Public Health Service. From estimates based on the National Health Survey and other data collected by the Service, the publication states that:

40,000 cancer deaths which could have been prevented occur every year;

40 million children are growing up without the protection from tooth decay afforded by fluoridated water;

20,000 persons die each year from preventable attacks of rheumatic fever and rheumatic heart disease;

60,000 new cases of tuberculosis occur every year although preventive methods are well known;

17 million persons have some type of chronic disability and a high proportion fail to receive care that could reduce handicapping effects.

The publication is designed to encourage wider use of the health-saving knowledge that has resulted from the findings of medical research during the past two decades. Single copies of PHS Publication Number 813 are available free from the Public Health Service, Washington 25, D. C.

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TYPES OF HEART PROBLEMS

It is a pleasure to be asked to talk about the types of heart disease before this group. I suppose what we are really talking about are the etiological forms of cardiac disease that the physicians have to contend with and, I am sure, that those in industry have to take care of. The pattern is changing somewhat in relationship to these etiological forms. A few years ago we would not have been considering the problem of congenital heart disease in industry or in employable age groups. But the surgical advances in this field make this a particular etiological form that people in the employment area are going to have to contend with in the future. Formerly the congenital group of cardiac problems were nearly all dead before school age or before college age. Few got into the adult area and became gainfully employed.

At the present time, I think that there is practically no congenital cardiac lesion that cannot have some type of surgical approach. The atrial septal defect, a ventricular septal defect, can be completely corrected. The individual may have no detectable evidence of heart disease, then, by stethoscope five years later. There are some of the congenital lesions such as patent ductus, coarctation of the aorta, the valvular congenital lesions, and some of the more complicated abnormalities that cannot be corrected completely but they can be much improved.

We are in the stage where we do not know how many of these people are going to survive into adult life and become employed. If we took a boy, of say 15, who had an atrial septal defect, and closed his defect, I suspect his medical speculation would be this: he would have a normal life expectancy — at least that is the reason that we think we do the surgery — but he would have very definite abnormalities in all probability. He would maintain an abnormal electrocardiogram and he would probably have an abnormal chest x-ray as relates to size of various chambers. He might not be able to get into the American Army, and he might not be able to get a job. Although from the practical point of view his heart is normal functionally, he is going to have a scar on his chest and, that will keep some companies in some areas away from him. I think our attitude is going to change then in this regard. In other words, there are going to be lesions in the congenital group and there are going to be objective findings that, while not always factual, indicate insurance risks to insurance companies. It is going to take years to acquire total information.

The problem of rheumatic heart disease is one of the common ones in the younger age group of individuals in the employment age range. You are aware that this is probably going to change. With antibiotic therapy and a better understanding of the cause, the problem of rheumatic heart disease in the next several years is going to be a decreasing one. I think that there is good evidence that some of the therapy available now, even in attacks of rheumatic fever when a patient has an acute episode with myocarditis and changes in the valve, that hormonal therapy may definitely prevent or modify the degree of valvular damage. Now, rheumatic heart disease, the way I think of it, is not a disease of muscle because one recovers most of the time from the myocarditis. The problem, of course, is that there is a mechanical defect in the cardiac valves. This may be, at first, a very inapparent affair

with a slight murmur, no other findings, no symptoms of heart disease but it may end up 20 years later with a severe defect. Dr. Paul has already indicated some of the types of problems that a rheumatic heart disease patient can have.

Surgery has changed this aspect. The mitral stenosis, aortic stenosis problem who is in a condition of severe failure or completely limited in his physical activities can be modified completely by a surgical approach and I might give a couple of examples of this. One patient, in bed for almost two years with mitral stenosis, had all the medical therapy that one could devise and he was not doing any better. He had a mitral commissurotomy performed, and two weeks later he rode a bicycle 17 miles. I am sure that he still had the murmur of heart disease; he still had the x-ray evidences but he was, from a functional point of view, completely rehabilitated. Whether this is permanent or not, I don't know, but this man had a great deal of difficulty getting a job in this area. As a result of our work with various agencies, he is employed. Another gentleman, who had a traumatic amputation of his leg in childhood, came into a hospital emergency room with an embolus to the bifurcation of the aorta and lost his other leg with an amputation above the knee. He had mitral stenosis and a fibrillating auricle. The clot had come from the heart. He had a mitral commissurotomy performed which relieved his pulmonary congestive symptoms, and this man, with a great deal of courage, was walking on artificial legs in three months. He is now employed in a very important purchasing position in this city.

Hypertensive heart disease is a common variety that I am sure everyone encounters. It sometimes seems very unfortunate that the blood pressure cuff was invented, because doctors are prone to tell patients that they have hypertension thereby introducing into the patient's consciousness the possibility that he has got something very bad wrong with him. Many times a hypertensive is at a very low level for many years without any significant symptoms relating to it. Although we are really no closer than we were 10 years ago to the fundamental etiology of hypertension, the problem of hypertension is being modified greatly by various drug-therapy combinations and it is not as severe a problem as it was before, from a medical point of view. The point is that a patient with hypertension, as far as the cardiac function itself is concerned, performs many years very very well until the left ventricle gets so large, or various other factors enter in, or until he gets the symptoms of congestive failure. Even then, there is usually a long period in this particular phase before the patient becomes disabled.

The most common and certainly the most tragic, in a way, is the problem of atherosclerosis, regardless of where it manifests itself. Aside from being the most common cardiovascular problem in the age group over 40, it is probably the biggest killer in the cardiac disease area, accounting for about 75% of all cardiac deaths if we consider the cerebral vascular accidents, the various occlusive diseases in the legs, and occlusive disease in the coronary arteries. People with coronary artery disease are usually discovered with a manifestation of angina. Many patients have episodes of angina and recover from them because the vessel is only partially occluded. It finally occludes and produces a small infarct that is not big enough for an electrocardiogram to show, then is free of angina for many years and the patient lives out a normal life expectancy. The evidence here is that with anticoagulant therapy, with possibly some clearing of serum, one may maintain and modify the fundamental picture in this regard. Consequently, there is hope in regard to the modification of blood flow and oxygen supply to the heart. The symptom of angina can be handled in many cases by medical means and there are various tricks to it. For instance the patient who cannot work because he cannot get to a bus in the morning can be managed sometimes by a small modification of his activities. He might have breakfast after he gets to work rather than before. There are various minor tricks that help to keep a person rolling.

When we get to the end of the road in medical therapy and maybe we should not think of it that way, I think that there is some promise that surgery can do something to revascularize the heart. This is controversial, this is experimental; we use it, we recommend it, and we have an occasional gratifying result. The only trouble with this symptom of angina is that sometimes we have an equally gratifying result when we do nothing but sort of touch the skin with the knife so that it is not clear, in a scientific way, whether or not the surgery does much in this regard.

The next etiological form is pulmonary disease and cor pulmonale. That usually occurs in the quite elderly group relating to emphysema. It occurs in people with bronchial asthma, of course, and in various forms of primary vascular disease in the lungs. I think that it manifests itself in the same manner as most other cardiac problems.

I do not think that the nutritional heart disease or the viral types of heart disease are very important etiological factors. We occasionally see a thiamine deficiency that leads to heart disease but this is so rare that it has no practi-

cal importance across the board of medicine. The viral types are usually EKG manifestations — if you do serial electrocardiograms in upper respiratory infections, you can show in about 50% minor changes in the T wave of the electrocardiogram. We call these nonspecific electrocardiographic changes of myocarditis. There are patients who have been made permanent cripples or practically so by such manifestations on the electrocardiogram. I think that the viscus etiology of various virus infections has importance in its practical point, not importance in its production of significant organic diseases of the heart. But important is the fact that a physician may overinterpret and establish in a patient the feeling that there is something wrong with his heart.

The symptoms of all these cardiac problems end up in about the same manner. Regardless of the etiology of heart disease, the ensuing problem is fundamentally the inability of the heart to deliver a sufficient amount of blood to various tissues in the body. In general, one experiences weakness and shortness of breath because of congestion. In backing up blood in the lung, the heart is not able to move on. The patient is unable to sleep flat, eventually retains water and sodium and so forth, and that leads to swelling in various organs and parts. It is interesting that those of us teaching a cardiac disease always come to this monotonous point that regardless of the etiology, the symptomatology is practically the same. We can do a great deal for this, of course. The patient in heart failure, regardless of the cause, can be functionally restored to normal as far as his cardiac muscle is concerned, by the movement of blood with digitalis, by restriction of sodium to decrease his blood volume and so on. With regard to restriction of activities, rest is important; but this point is majorly overemphasized. I have never been convinced that a patient with a rheumatic valvular abnormality, particularly with a mechanical obstruction, would live much longer if kept in bed than he would if he were allowed to be fairly active. I, from a philosophical point of view, do not restrict cardiac patients to any degree, because the symptoms of cardiac problems automatically restrict the patient who usually knows much better than the physician what he can do. As I see it, we should urge the patient to do more than he thinks he can do.

Take One Hog's Tooth

Although the science of dietetics is a recent addition to modern hospital care, notes and observations on foods for the sick go back more than 3,000 years. Dietitians at The University of Michigan Medical Center say the first recorded diets for health purposes appear in the Ebers Papyrus, a medical treatise written in Egypt in the XVIII Dynasty during the reign of Amenhotep I. The Ebers Papyrus was created about 1,550 B.C. but it contains material copied from works many centuries older.

Among the mouth-watering recipes is this ancient concoction "to drive away indigestion":

> Fill a Casserole half with water, half with onions and let stand for four days. Beat to a froth one-fourth of the third part of the contents of this vessel, and drink it for four days.

Another prescription-diet gives free rein to culinary artistry:

> Combine figs, gengent-beans, sebesten and grapes; add caraway and resin-of-Acanthus; season with peppermint and ink; cover with sweet beer and take for four days.

The idea of putting "ink" in food seems to have dubious clinical value, but the Egyptians obviously had a lively imagination. Consider this alternate "cure" for indigestion, also taken from the papyrus:

> Grind a hog's tooth to powder, put inside four sugar cakes and eat for four days.

Presumably, say the U-M food specialists, if the sufferer could stomach that combination, he would henceforth be able to eat like a pig.

Despite the primitive form of most Egyptian medicine, some of their discoveries are still in use today. They were the first to employ the "oil of the castor bean" for a purgative and they invented the use of raw meat for treating a black eye.

CLASSIFICATION OF CARDIACS

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It seems almost unnecessary to say that the need for rehabilitation is considered to exist in all etiological groups, in all economic groups, and in mild, moderate and severe degrees of cardiac impairment. In general, too, it is apparent that since severe cases are unable to engage in or to return to their old jobs or substantial gainful activity, and since the very mild cases will probably return to their previous activities, then the bulk of need will lie with the patient having a relatively mild to moderate cardiac disability. And it is this group, numerically the greatest, among whom a successful result may be expected.

Discussion of the heart function has two phases. The problem here is one of classifying the degrees of impairment which result in a given cardiac patient. Putting it another way, what capacity remains for performing specific activities and how can one put a quantitative value on this remnant of residual of cardiac function? The second phase of the problem, as I see it, is to relate the patient's residual to his job requirements.

Referring to Figure 1 which shows the four categories of functional ability, this classification is an estimate of the patient's ability to perform physical activity since no clinical tests exist at this time which accurately measure the functional capacity of the heart. This estimate, then, is based on inference of the patient's history. Consequently, a large subjective coloration is present which adds to distinct variable because of the patient's psychological response to his work needs and desires, his social pressures, his threshold of pain, and more particularly, his special pride. Functional capacity is limited to symptoms, all of which help in the judgment of residual function.

While Figure 1 indicates what a cardiac can do, Figure 2 indicates what he is usually advised to do. In order to determine the category of activity which best fits a particular type of functional capacity, additional aids are available.

Beginning with Figure 4, a series of tables are presented which list the findings of various energy-cost studies which are concerned not only

FUNCTIONAL CAPACITY

CLASS I: Patients with cardiac disease but without resulting limitations of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea or anginal pain.

CLASS II: Patients with cardiac disease resulting in slight limitations of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea or anginal pain.

CLASS III: Patients with cardiac disease resulting in marked limitation of physical activity. They are comfortable at rest. Less than ordinary activity causes fatigue, palpitation, dyspnea or anginal pain.

CLASS IV: Patients with cardiac disease resulting in inability to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome are present even at rest. If any physical activity is undertaken discomfort is increased.

Figure 1

THERAPEUTIC CLASSIFICATION

CLASS A: Patients with a cardiac disease whose ordinary physical activity need not be restricted.

CLASS B: Patients with cardiac disease whose ordinary physical activity need not be restricted, but who should be advised against severe or competitive physical efforts.

CLASS C: Patients with cardiac disease whose ordinary physical activity should be moderately restricted, and whose more strenuous efforts should be discontinued.

CLASS D: Patients with cardiac disease whose ordinary physical activity should be markedly restricted.

CLASS E: Patients with cardiac disease who should be at complete rest, confined to bed or chair.

Figure 2

THERAPEUTIC CARDIAC CLASSIFICATION

CURRENT RATING	SUGGESTED RATING
A. No restrictions on activity	Up to 5 Cal./min.
B. Ordinary activity only	Up to 2.5 Cal./min.
C. Moderate restrictions of ordinary activity	Up to 2 Cal./min.
D. Marked restriction of ordinary activity	Up to 1.5 Cal./min.

Figure 3

COST OF VARIOUS ACTIVITIES IN CALORIES PER MINUTE—Recreational Activities

ACTIVITY	CAL./MIN.
Painting, Sitting	2.0
Playing piano	2.5
Driving car	2.8
Canoeing (2.5 mph)	3.0
Horseback riding (slow)	3.0
Volley Ball	3.5
Bowling	4.4
Golfing	5.0
Swimming (20 yd./min.)	5.0
Dancing	5.5
Gardening	5.6
Trotting horse	8.0
Spading	8.6
Skiing	9.9
Squash	10.2
Cycling (13 mph)	11.00

Figure 4

COST OF VARIOUS ACTIVITIES IN CALORIES PER MINUTE—Household Tasks

ACTIVITY	CAL./MIN.
Hand sewing	1.4
Sweeping floor	1.7
Machine sewing	1.8
Polishing	2.4
Peeling potatoes	2.9
Scrubbing, standing	2.9
Washing small clothes	3.0
Kneeding dough	3.3
Scrubbing floors	3.6
Cleaning windows	3.7
Making beds	3.9
Ironing, standing	4.2
Mopping	4.2
Wringing by hand	4.4
Hanging wash	4.5
Beating carpets	4.9

Figure 5

COST OF VARIOUS ACTIVITIES IN CALORIES PER MINUTE—Industrial Activities

ACTIVITY	CAL./MIN.
Watch repairing	1.6
Armature winding	2.2
Radio assembly	2.7
Bricklaying	4.0
Plastering	4.1
Wheeling barrow (115 lb., 2.5 mph)	5.0
Carpentry	6.8
Mowing lawn by hand	7.3
Felling tree	8.0
Shoveling	8.5
Ascending stairs (17 lb. load, 27 ft./min.)	9.0
Tending furnace	10.2

Figure 6

COST OF SELF-CARE ACTIVITIES IN CALORIES PER MINUTE

ACTIVITY	CAL./MIN.
Rest-supine	1.0
Sitting	1.2
Standing, relaxed	1.4
Eating	1.4
Conversation	1.4
Using bedpan	4.7
Dressing, undressing	2.3
Washing, Hand, Face	2.5
Bedside commode	3.6
Walking (2.5 mph)	3.6
Showering	4.2
Walking downstairs	5.2

Figure 7

with ordinary activities but also with various other functions. In considering energy costs of specific jobs, it must be remembered that the figures presented in these tables represent energy expenditures of normal individuals — not cardiacs.

It is clearly evident from the knowledge of energy costs that in most work situations, the energy requirements are highly variable and in most cases they do not sustain for any protracted period. If this is so, the other variables must lie within the individual himself. The manner in which the patient reacts to his symptoms and to his environment hinges on the degree of his realization as to the nature and the course of his heart disease; and in this connection, it is well to remember that the course of heart disease is not necessarily down-hill. Even in very stable individuals, tension, anxiety, depression and fear may be very prominent and disabling. Frequently, incomplete understanding between the patient and his physician result in distorted impressions and "physician-inspired heart disease." We know, too, that patients may sometimes be guilty of hearing only what they wish to hear which may allow for some of the secondary gains of illness.

COST OF VARIOUS ACTIVITIES IN CALORIES PER MINUTE—Occupational Therapy

ACTIVITY	CAL./MIN.
Leather, punching, lacing (reclining)	1.2
Rug hooking, sitting	1.3
Chip carving, reclining	1.5
Knitting (23 stitches/min.)	1.5
Weaving (table loom)	1.5-1.8
Copper tooling	1.9
Typing — rapidly	1.8
Weaving (floor loom)	2.0
Chisel carving with mallet (standing)	2.0
Chisel carving without mallet (sitting)	2.0

Figure 8

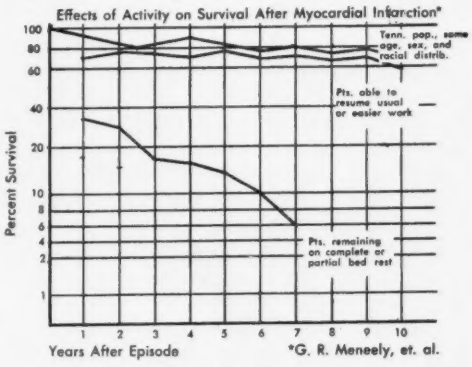

Effects of Activity on Survival After Myocardial Infarction*
Tenn. pop., same age, sex, and racial distrib.
Pts. able to resume usual or easier work
Pts. remaining on complete or partial bed rest
Percent Survival
Years After Episode
*G. R. Meneely, et. al.

Figure 9

The picture of a patient's cardiac ability can be painted in the history, functional and therapeutic classification and reviewed in relation to energy costs. Those patients who are in classifications which allow for reporting to the job actually have the capacity to do practically any job in industry except for the peak loads. If those peak loads can be tapered by a fellow employee or by eliminating some particular phase of the job, the patient can be employed even if he is a Class III cardiac.

The most important single aspect of restoration of the cardiac should be concerned with the continuing education of the physician, whose singularly important role in a successful rehabilitation will enable him to dispel the unwarranted fears of a patient plus his own personal misgivings and to present to the family a judicious, healthy outlook on the patient's future. Perhaps it would even be possible for us to eliminate the terrible fear and unnecessary restriction that continue to plague the cardiac. If those can be eliminated, it will certainly lead to justifiable uprating of the cardiac's classification.

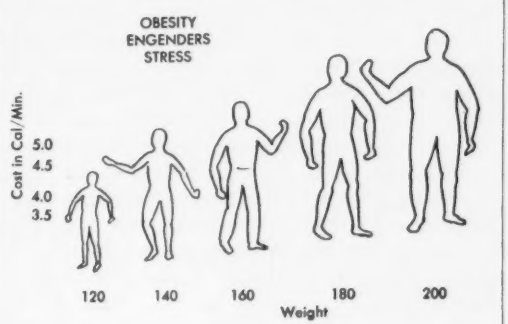


Figure 10

ENERGY EXPENDITURES, IN CALORIES PER MINUTE, DURING TYPICAL WORKING DAY FOR INDUSTRIAL WORKERS WITH HEART DISEASE

WORK CATEGORY	CALORIES	
Less than 1.0	*Av.*	*Peak*
Electronics tester	0.79	0.98
1.0 to 1.5		
Laundry crib supervisor	1.25	1.47
Gauge setter	1.28	1.80
Painter	1.41	2.67

Figure 11

ENERGY EXPENDITURES IN CALORIES PER MINUTE, DURING TYPICAL WORKING DAY FOR INDUSTRIAL WORKERS WITH HEART DISEASE

WORK CATEGORY	CALORIES	
1.5 to 2.0	*Av.*	*Peak*
Planning clerk	1.68	2.01
Boxmaker	1.74	2.17
Foreman	1.78	4.04
Tool grinder	1.84	2.23
Light assembler	1.88	2.40
Assembler	1.96	2.49
Stock picker	1.99	3.24

Figure 12

ENERGY EXPENDITURES, IN CALORIES PER MINUTE, DURING TYPICAL WORKING DAY FOR INDUSTRIAL WORKERS WITH HEART DISEASE

WORK CATEGORY	CALORIES	
2.0 to 2.5	*Av.*	*Peak*
Set-up burnishing press worker	2.04	2.28
Stub lathe operator	2.07	2.74
Stamper	2.15	4.31
Scarfing machine operator	2.26	3.26
Turret lathe operator	2.28	2.78
Matron	2.36	4.11
Clutch tester	2.40	2.92
2.5 to 3.0		
Welder	2.60	4.47
Janitor	2.69	4.29
Fireman (boiler)	2.75	6.72

Figure 13

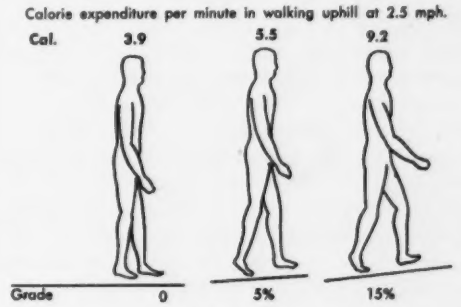


Figure 14

• MAX HORTON
Director
Michigan Employment Security Commission
Detroit

EMPLOYMENT OF CARDIACS

Being the only layman on the platform with doctors and lawyers, I would like to take the role which I like so much and to which I have devoted most of my life — that of a professional go-between. In this role, we at the Security Commission attempt to gain the confidence of employers to the extent that they will give us their orders for workers and allow us to do at least the prescreening according to their specifications, and thereby, allow us to place back in gainful employment a large number of people that need employment for their own dignity and as a matter of right. In that way, we can serve both the employer and the worker.

At the outset, let me say that no incident ever helped more to bring about public understanding of heart disease than did the heart attack suffered by our President, Dwight D. Eisenhower, in 1955. Many people at that time became cognizant of the fact that a heart attack does not necessarily mean that a person has reached the end of the line. They learned that in many cases the person suffering the attack can, with some adjustment, lead a normal work-a-day life and, of course, with the assistance of the professional people in the Michigan Heart Association, I hope that we can make that into a day-to-day realization. I think that Mr. Eisenhower is a good example of the tremendous burden and load that man can carry.

Unfortunately, not all can do it. Heart disease continues to be a number one crippler in this country. In order for the Security Commission to do a good job of counseling and referral of those who go back to jobs, we must have the assistance not only of the Office of Vocational Rehabilitation but the Michigan Heart Association, physicians, legal fraternity and so on, because the employee may have substantial limitations that we must know. Jobs may need to be altered and again that requires understanding on the part of the employer. So we, in the Employment Service, need all the help that we can get in this regard.

Of the physically handicapped, cardiacs are the only persons we service whose handicaps are not immediately discernible. It is only through medical examination that we know that they are suffering from a cardiac condition. Many times, workers will not disclose this information, and it shows up only when we have made a referral to a company where there is an organized medical department or an arrangement whereby the prospective employees undergo physical examination. Then, of course, the worker is not hired. This also means that many people who have been dismissed by employers because of their condition, or people who could not be absorbed in a suitable job under the seniority provisions of the shop, learn in a hurry that in seeking work, they must conceal their physical difficulty. Therefore, those people many times find employment in small companies where physicals are not required and under some circumstances, they may work under unfavorable conditions. Sometimes it is fatal to them, and in the long run this affects the rating system of workman's compensation insurance. Therefore, it would be much better if such persons could stay with the original employer and work under conditions and with an understanding that is known to everyone. In order for a cardiac to be placed his total physical capacity should be known, and a good deal has been done in the way of research to establish certain standards in this area. We must have a more specific meas-

ure of a man's capacity in order to place him effectively. We need the information from Dr. Gage's charts. Then, with that, we can do some realistic counseling and selective placement through job development in cooperation with the OVR and other agencies.

There are other barriers which many times preclude the smooth transition from convalescence to employment. Many times it is an emotional state or fear of the condition. Some individuals are dependent and lacking motivation. Others want to prove that they have nothing wrong with them and over extend themselves. These people, when properly placed, are good productive employees. Usually their absenteeism is low, notwithstanding the fact that they have a condition of this kind; they are mature men with a substantial job history and they are dependable for that reason. The cardiac is a good investment in years of experience and potential productivity for the future, when everyone is aware of his limitation and when he is performing under medical supervision.

During 1958, we averaged 400,000 individuals unemployed, when we were in the recession. We found that in that time, a lot of well capitalized concerns, who normally would have filled positions that were vacated through attrition, were not filling. They assumed the "watch and see" attitude. So I say that the psychology of employment is all important. We in Michigan were just coming out of it in good shape when the steel strike came along. These events have a long term crippling effect on the state as well as significance for the physically handicapped person who many times is also in the category of the older worker. To illustrate, at the present time there are approximately 65,000 persons in this state who we consider chronically unemployed to the extent that they have lost their job attachment permanently. These are not the people primarily at the very lowest end of the economic ladder without education or without skill. Hard core unemployment of this particular character occurred when industry (particularly the auto industry), for good business reasons, went through a series of consolidations and in turn caused some of the suppliers to close entirely. In fact, most of this hard core, and these are people without any physical disabilities, by and large came from Hudson, Packard, Murray Body, Briggs Manufacturing, Motor Products, etc. People that had a special saleable skill immediately moved in to other jobs, and that occurred whether they had a heart condition or any other physical disability. But the balance of them, many with 15 to 28 years seniority, had pretty hard going.

There is real need for understanding and cooperation if we are serious in our effort to do something about the cardiac. There has been a lot of talk about training and retraining and we do cooperate very closely with the OVR. But when you have a loose labor market, what is the use of training that individual for a job that he will never receive? If that was true in 1958, it is true to a certain extent right now. Then that person, many times a cardiac and an older worker, gets in more trouble.

Industries have done a fairly good job in taking care of their own, within the limitations that they have in terms of seniority and so on. But I think that it is time to have industry and labor sit down to determine methods whereby they can work out some sort of lateral seniority, so that these people can be contained within their family. I am referring to the people who have real job attachments and have rendered a real service for those employers over a long period of time. This is important because we, as a public employment service with a loose labor market, are not going to be able to find job opportunities so necessary for the recovery of these people unless we have the cooperation of everyone. We have people listed in our files without disabilities, not older workers, that we can refer to almost any job except the very hard-to-fill skills.

We are about at the point where we are going to undergo the population explosion. It is going to happen here in Michigan. On top of it, there are over 500,000 workers that migrated to this state during the period from World War II until 1956. There are still some coming in, but now there is a movement out that is probably offsetting the migration into Michigan. But we are going to experience the so-called explosion in population to the same degree that any other metropolitan area will. That means that between now and 1970 that we shall need 100,000 new jobs each year in order to have a healthy economy. Of course, with the decentralization of the auto industry and the trend of the durable goods industry, it means that most of these people are going to have to go into the services and trades. It means that any physically handicapped person requiring special consideration is going to have a hard row to hoe.

The Matter of Insurance

• L. J. CAREY
First Vice President
Michigan Mutual Liability Company
Detroit

In discussing the relationship of insurance to this problem of employing the handicapped and particularly the cardiac, I would like to dispel what seems to be an erroneous impression that insurance companies, as a class, oppose the employment of the handicapped. Nothing could be farther from truth. The public pronouncements and printed pamphlets, widely distributed by the various insurance organizations, should convey the correct impression which is that we believe in hiring the handicapped. We have found and we believe that handicapped people make better employees. We, of course, counsel that they be employed within their capacities. The erroneous impression comes from the fact that in surveys made among employer groups, particularly at the personnel department level, such people want or are looking for someone to blame. In search of an excuse, they say, "Well, it's all right with us, but our insurance company objects." Let me say on behalf of my company and on behalf of many of the other insurance companies with which we are in contact daily that that is not the instruction given by any such insurance company to its employees who contact employer organizations. Now, of course, it might come again from the practical phase of the matter that we must all face. Insurance companies as such take an attitude toward the matter of benefits in insurance that it is none of their business. If the employers and employees, the labor organizations, come together on an agreement, or if the legislature itself, regardless of their agreements, passes legislation relative to benefits that are to be paid under the compensation law, then the obligation of the insurance company is to evaluate the cost of those benefits and to set a rate and charge the employer organizations for it. In doing that, we must necessarily tell them what causes some of these costs. It is our obligation to tell them when they are having increased cost and the reasons for it, but this is not in any way an attempt to tell them that they should not hire handicapped people.

With regard to some of our more recent Supreme Court decisions which, to a large extent, are simply reflecting a national trend in this field, it is, of course, quite certain that the obligation of the employer for workman's compensation has been materially increased. We cannot go to an employer with a rate increase one year of 5% and the very next year 26.4% without so much as an explanation as to where these charges come from. He wants to know what losses are causing it. We must tell him and we do! Part of it, of course, is the Sheppard and Coombes cases in which our Supreme Court has taken a new and very liberal attitude toward the granting of compensation.

Up until a couple of years ago it was considered by most of us that in order to have, we will say, a heart case become compensable, there had to be an accident happening in the employment. There had to be something sudden and unexpected. There had to be something that you could put your finger on in point of time and place and when that occurred and aggravated a preexisting condition, it became compensable. But now it does not have to be an accident. As the law is being administered, any incident of the employment, and it is almost to the point where the mere occurrence of the attack on the employer's premise, will for all practical purposes make that case compensable. Our own company found out what it felt like to be an employer in that position. We had a claims adjuster who had a heart attack and who was kept on the payroll for a year or so while he was disabled. He returned to work and in the course of adjusting, he traveled around the city in a car, walked some, took statements and made investigations. On his death, a claim was made by his widow for compensation. Some of us that were in the field knew the trend of decisions and we were not perhaps too surprised at this. Our management was astounded, and they have, regardless of what we have been able to do about it, established certain thoughts in their mind that will result in the rules and practices

for employment in our organization that are not going to be what they were some time ago.

What can be done about this problem? The trade association that I mentioned before recently conducted a seminar in Boston which was attended by most of the top heart men of the country for discussion of their problems. Educational meetings of that kind will go on. In addition to that, we have established a rehabilitation committee in the American Mutual Insurance Alliance and we are making a very serious study of this question of rehabilitation and replacement on a national basis. Studies of this kind will produce some of the answers.

Many various proposals have been made for a solution to the problem. The second injury fund is another matter that I would like to discuss. Every time one of these problems arises about the employment of the handicapped, someone reaches out and says, "The first thing we have to do is to establish or to enlarge or to amend our second injury fund law so as to take care of the situation." The second injury fund laws were established originally with a specific idea in mind pertaining more to actual accidental injuries, principally the amputation and cases of that character. Now when we begin to try to put into this situation the heart cases and others, we add a complication that just does not fit. It is not what they were originally enacted for. Perhaps the principal thing that is suggested in connection with the second injury fund law is an amendment that would limit the liability of the employer. That does not necessarily have to be in a second injury fund law at all. But in regard to heart conditions, many of the prominent specialists in this field admit that perhaps 90% of the disability that comes from heart conditions is congenital. As one doctor explained, it depends on whether you got fitted out with nice copper tubing or whether you happened to be unfortunate enough to pick the wrong parents and got some lead or cast iron pipes which will rust, corrode, etc. If this is the concept, then, that a great deal of this difficulty and the disabilities that flow from it are not connected with employment, why is it that the employer is asked to stand the expense of all of the rehabilitation and of the disabilities that occur? In other words, if you are going to limit the liability of the employer, you must work out some basis of providing for that limitation. Who is going to take care of the rest of it? Is that not a charge of society as a whole? Yet, if you are going to do that for heart cases, how many other disabilities are there in the world that you would ask society to take care of generally?

In reference to the second injury funds, the suggestions and solutions that are always offered are these: limit the liability of the employer to 50 weeks or 100 weeks or 104 weeks, as it is in New York, and then let the employee get the rest of his compensation from the second injury fund. Strange to say, if you read the suggestions a little farther you will find that the second injury fund is also to be supported by employers. It is just a matter of whether you fasten it all on this employer today or whether tomorrow you ask him to join with others and pay for the rest of it. Why are employers being asked to carry that burden in the heart cases? It is understandable in silicosis or some of the other diseases where you can pinpoint the original cause of the disease to the employment itself.

What about waivers? Not only should we consider waivers of the disabilities that may arise from the employment of such a handicapped, but also the waivers of the union rules involving seniority. So far, there has been rather serious objection from organized labor on both of these fields and until we can work out the problems, the waiver solution seems remote. Waivers properly worded, properly administered, and without abuses could be a God-send in this field of hiring of the handicapped. In this field there could be much improvement and some method should be worked out to have the administrators able to determine more adequately the truth in these cases. There is a possibility that some such statutory method as is now present in our occupational disease law applying to aggravation might be applied. Whether it could be properly worded or whether such a law could be passed or not, I do not know. Another possibility is a limitation upon the employers' obligation. If society finds, however, that it is going to have to take care of the whole problem, then it becomes hopeless. What about a medical examining board or perhaps some method of having an impartial testimony submitted in the administration of the act? These are all possibilities. There must be a good deal of cooperation between employers and labor in working them out.

There is one excellent suggestion that has been made by one of my compatriots on the committee that is working on the question of rehabilitation. Dave Parish of the Hardware Mutual Insurance Company of Wisconsin says: "In my opinion the insurance industry has a duty to the employers it represents to do something about this unfortunate situation. One approach would be to undertake an educational program for the member companies who, in turn, could pass the information to their legal representatives. I am afraid that even if we were 100% successful in educating our member companies and legal

representatives, many problems would remain. I further believe that the problem will not be substantially solved until some outstanding medical authority or authorities establish criteria for the determination of causation in this type of claim. I do not believe that an article by a single expert would be sufficiently authoritative to accomplish what was intended." Later on in his report he says: "In my opinion the establishment of such criteria would serve to accomplish the following principal results: (1) litigation would be reduced, resulting in substantial savings to both the insurance industry and their insured employers and the workman's compensation agencies, and (2) the incidence of compensation claims would be reduced resulting in substantial savings to employers. A by-product of this would be less discrimination in the employment of cardiac patients which in turn would reduce, if not eliminate entirely, the frequency of proposals for the expansion of second injury funds to include the heart cases, the establishment of special funds, special rating procedures or statutory provisions. Further, such a program should not be difficult for some of the medical profession since it would tend to retard what is rapidly becoming a farce in medical testimony which serves to discredit the medical profession as whole."

And there is another ray of hope in a paper by Dr. Richard Clark, the Medical Director for the Cardiac Work Classification at the Massachusetts Heart Association, which was delivered at a recent symposium in the Liberty Mutual at Boston. Under the heading of impairment rating he says this: "During the past two years, a committee of consultants to the Committee on Rating of Physical Impairment of the American Medical Association has prepared a guide for the evaluation of impairment of the cardiovascular system. The speaker was one of the five members of this consultant group which was chaired by Dr. Henry Kessler. In the course of the next few months this guide will be published and disseminated by the American Medical Association. It will be in similar format to the previous guide to evaluation of impairment of the back and extremities which was made available in 1958 and the subsequent guide concerned with the visual system. It is the sincere hope of the present committee and the subcommittee that this guide may furnish a somewhat realistic and equitable approach for insurance companies, compensation boards, disability commissions and others concerned with such rating."

I have one other ray of hope in something that was said by Dr. Paul Dudley White at a meeting in Chicago. He pointed out that genetic defects are at least 50% responsible for most coronary and blood vessel disturbances. He stated that scientists are seeking a method for supplying missing body substances called enzymes which control the action of the genes. There are several diseases in which faulty enzymes are known to be at fault as causative agents. If a way can be found to replace such regulating agents, we no longer need be saddled with our ancestors. These chemical means may be available within a generation to overcome the inherited weaknesses responsible for heart attacks and certain other diseases. Although that is not immediate, I hope that something of this kind may help us solve some of the problems that interest us so intensely.

Live Longer, Work Longer

One of the most important results of medical progress in this century has been a large increase in the average American's working life expectancy, Health Information Foundation reports. In the April issue of its monthly statistical bulletin, *Progress in Health Services*, the Foundation pointed out that an American male baby born in 1958 has a working life expectancy of 42.3 years — 11.2 years over the comparable figure for a baby born in the 1900-02 period.

In terms of manpower potential, the H.I.F. report stated, "A group of 100,000 males born in 1900-02 could expect to put in an average of 3,106,000 man-years of work during their lives. By 1939-41 the comparable figure was 3,815,000 man-years, and by 1958 it was 4,228,000. Thus the working life expectancy in man-years of a group of 100,000 male infants has risen by over 1 million since 1900-02."

Not only do American males today have a longer working lifetime, but they can also expect to spend more years outside the labor force. The average number of nonworking years for males increased from 16.8 in 1900-02 to 24.1 in 1958. Young men now enter the labor force more than two years later, on the average, than was true at the turn of the century. And during the same period retirement-life expectancy has more than doubled — from 2.7 years for 20 year old males in 1900 to 6.3 in 1958.

According to the Foundation, the increases in both working and nonworking years are part of a larger trend, the "remarkable increase in life expectancy." Life expectancy for males at birth rose from 47.9 years in 1900-02 to 66.4 in 1958, or by 18.5 years.

• BUELL DOELLE
Lacey, Jones and Doelle
Detroit, Michigan

Legal Aspects of the Claim

Whether cardiacs can work, unfortunately, is more dependent for answer upon legal aspects and consequences of their reemployment than upon their physical or vocational rehabilitation. In other words, the legal aspects of this particular subject are more important for our consideration than even the physical or vocational rehabilitation aspects. Secondly, the state of the law has crystallized in the nation and lately in Michigan as to liability of the employer for aggravation of preexisting heart disease under workman's compensation laws and this crystal clear legal status will persuade even the most humanitarian employer, who is yet a sound businessman, not to risk reemployment of a cardiac. Mr. Carey alluded to the decisions of the Michigan Supreme Court which were simply an enunciation of the prevailing philosophy of workman's compensation law in the nation, to the effect that under workman's compensation laws we do not need an accidental fortuitous event. They put Michigan onto the band wagon with most the states, simply granting compensation in those cases where you could have some work-connected injury. It didn't make much difference whether it was in the field of aggravation or actual causation. I ask this question, "Is the present state of the law a sound one?"

This state of the law is the result of adversary litigation. The law, as we know the law, is hammered out in the courtroom and before administrative tribunals on the anvil of justice and it is there that legal principles evolve. The whole concept of adversary litigation is the contention of one party as opposed to contention of another, and either a jury of 12 persons who are finders of fact sit down and determine the merits of these contentions, or some referee or deputy commissioner or other administrative tribunal trier of the fact determines those facts. That, of course, is the whole basis of our system of justice and legal philosophy. This particular philosophy that heart conditions can be aggravated by doing the normal work of the employment or some unusual exertion, if that is a requirement, has been based upon opinions of medical experts. True enough, it may not be the accepted majority view of the medical profession. It may be less scientific, but the fact remains that it is possessed by certain of these medical experts, and for the most part, those medical experts are persons who might be experts in the realm of, shall we say, forensic medicine.

We have to talk in litigation about emphasis. There is nothing more important! Adversary litigation, whether it is before the compensation tribunal or before a jury, is all a matter of emphasis. We as attorneys emphasize the good factors, the good points of our case. We tend to ignore as much as possible those which do not help our case. On the other hand, our adversary is doing identically this same thing, so that some poor jury or trier of facts is hardpressed to find the truth. The jury sits in common law injury actions and it is asked to decide the truth of two doctors who testify. One testifies for the plaintiff that in his opinion the tort feasor or the wrong doer who is represented on the opposite side of the table was guilty of a wrong toward this poor fellow, and that what he did to him did actually aggravate the preexisting arteriosclerotic heart condition and brought about this coronary occlusion. Usually the plaintiff's attorney who is poor mouthing his case, as we say, has him attired in his oldest clothes, and every day, as the jury has gone into the jury room, they have seen the poor fellow outside there, not sufficiently garbed in cold weather, and the fellow sitting across the table is usually an attorney representing a corporation. The expert for the defense goes on the stand and the jury hears him say, "No, it can't be! As a matter of fact, I've got this statistical study by Doctor So and So and he's found that in 95 cases of suspected traumatic involvement or aggravation none was actually found to exist." He goes on, and it is well documented, but there is no question about the fact that this corporation can afford to buy this plaintiff some new clothes and help support him, his wife and seven children. Somebody's got to do it. So that has engendered among jurors the philosophy of what we call the "deep-pockets" philosophy. If you can find some fellow who has the ability to pay and who has deep enough pockets, it is far better to stick him than the taxpayers. In the light of that, you see, in that crucible, the doctor who testified for the plaintiff might have been an

utter incompetent; he might have even been a neighborhood doctor who never saw a heart case, but he read an article someplace and the jury is going to believe him (or at least is going to say so in the jury room). Out of the crucible, and hammered over that anvil in that courtroom is coming out a determination that heart conditions can be aggravated and this poor fellow's plight today is due to that.

The same thing happens before the workman's compensation tribunal. Remember that workman's compensation legislation is remedial legislation. It is supposed to accomplish the remedy of saving workers and their dependents from work-incurred injuries, and if it doesn't accomplish that remedy, it shouldn't be on the books.

The man who is paid by the state to sit and decide questions of fact has to decide those questions of fact in the light of the remedy to be achieved. And he does do it. That again is our system of justice. He gets two doctors. One speaks for the plaintiff: "Yes, there is no question in my mind. I knew Mr. Jones back when he was an alert, healthy man. He had an interest in life, supported his family, earned good money, was just a paragon of outdoor activity — went hunting and fishing, had lived a normal life and you should see him today! He is just a shadow of his former self." Here he is, a pathetic little fellow. He is drawn, he is a worried looking fellow and he is not dressed properly. Then you get a fine scientist on the stand afterwards and he says that he does not think it was aggravated. If there is any aggravation, it is that the plaintiff eats too much. You know, eating too much can cause these things, too. And that's a great defense! You can see how you'd believe it.

The appellate courts and the Michigan Supreme Courts get a tremendous amount of criticism, as do the appellate courts of other states, about setting up some kind of concept of aggravation in heart cases. With all due deference to their critics, they do not set it up. They have nothing to do with it. There is a trier of fact down there in the lower echelon, either a hearing referee or a jury, that has made the determination from evidence. An appellate court does not have one bit of power to set aside that finding of fact, because it cannot say, as a matter of law, that Doctor A told the truth and Doctor D did not. You cannot ask an appellate court, reasoning from legal principles, to hold, as a matter of law, that one man tells the truth and another does not, because that is not their prerogative.

The Supreme Court of Michigan in Sheppard and Coombes made a very forthright interpretation of what the law is. The requirement of accident was not dictated and they tried to put in a concept of work-connected injury. Mr. Hill wrote a lengthy article on that for the Detroit Bar Journal saying that the requirement of accident was no longer needed in compensation cases after the '43 amendment. So for this particular rule of law, don't blame the appellate courts. It has been found on the lower level by the finders of fact and there they have relied on the testimony of experts in the medical field. Today that particular rule of law of aggravation, so far as the rule of law is concerned, is one which we have to face and we have to live with. This rule of law may be the unhappiest result, so far as the vast body of cardiacs is concerned, but nevertheless it will stand. The appellate courts are not in a temper to change that law either in Michigan or in any of the other 49 states of the Union.

Can this doctrine be modified by appellate courts? Conceivably it could, but it will not be. It is a bench-made doctrine, to some extent, but there is no indication that either now or 50 years from now they will modify it. All of the persuasion of medical science under any kind of competent generalship is not going to be convincing enough to get the appellate courts of the nation to change their attitude on aggravation of pre-existing heart conditions. You can have all your panels and everything else that you want, but you aren't going to change the picture. The reason is that you are sending up to these appellate courts findings of fact, and if you want to change those findings, you must start down at the lower level.

Will legislation help? Legislation will not change the doctrine, but it can alleviate the effects of the doctrine. In that particular connection, Mr. Carey has talked to you about the second injury fund and what can be done in that connection. There has to be some kind of relief for the employer in compensation cases for the hiring of a cardiac, or he is risking increased liability by reason of the fact that he hires a cardiac or one that is not sound physically. He has got to have some kind of help or he is not going to do it. His humanitarianism, after all, has to give way to the fact that he is running a business and he is responsible to more than his own conscience. Let's give the man some kind of reason why he can hire cardiacs, why he can give them a chance. That reason has got to lie in some limited liability as accomplished in other states — 104 weeks of liability as opposed to 500 to 800, or some kind of registration system and a pickup from the second injury fund, perhaps, for additional benefits to the cardiac to be paid from a tax supported structure.

If we as individuals are interested in alleviating this problem, we must work through the legislative branch of government, not through the courts.

Report on Panel Discussions

WORKSHOP ON REHABILITATION

JOSEPH SCHAEFFER, M.D., Chairman
Director, Rehabilitation Institute, Detroit

Rehabilitation was discussed not as a technique or specialty of medicine, but as a philosophy of evaluating a patient's needs which may be more than medical. Many times these needs are social, psychological, and vocational, and by applying proper forces at the proper time in the management of the patient, rehabilitation can then be effective, hopefully in a significant number of cases.

The following are summary statements from the workshop:

There is a need for the gradual and continual accumulating of data on chronically ill patients and particularly, in this case, the cardiac over a period of years. Emphasis was placed on the need for this data in regard to the cardiac child, about whom a certain amount of information is developed through the school career. Through the maintenance of this information, which could be made available to an agency or employer, the individual when properly counseled would hopefully be placed in gainful employment at a level in which he could accomplish.

It must be recognized that the cardiac exists not only in industry but in any age group of any segment of the population. The housewife, the rheumatic child, the farmer who has a cardiac condition — all of these people must be given the benefit of the rehabilitation program.

Rehabilitation should start at the time of the acute injury or illness and it should not stop until the patient has returned to a maximum level medically, socially, psychologically and economically. This is an on-going program that must be considered by every individual dealing with the patient.

Marked changes in the concept of caring for cardiacs have occurred in recent years. A graded activity program is often instituted immediately following an acute myocardial infarction as compared to the previous practice of complete immobility for a number of weeks.

Rehabilitation is an active process in most industries. In fact, about 75% of cardiac patients do go back to their original type of work and a significant number of others can be placed in a similar plant on a different job.

We need to appreciate the fact that a great deal of work is being done in terms of determining how much a cardiac patient can do. Involved in this is the need for information not only on what the individual can do without incurring further damage but the energy requirements of specific jobs. In order to evaluate the patient's ability to function in a given position, we need to have a common understanding of job requirements, what is meant by "light" or "moderate" or "heavy" work.

No two individuals will respond or react to a chronic illness in the same manner. This implies skillful handling by the physician as well as the rest of the team involved in getting the individual back to a maximum place in his community.

WHAT CAN THE PHYSICIAN DO TO HELP THE CARDIAC GET TO WORK?

MARTIN BRUTON, M.D., Chairman
Assistant Corporate Medical Director, The Chrysler Corporation

As the concept of rehabilitation has taken hold in our society, the role and responsibility of the physician has been proportionately altered. The doctor is now expected to assist a patient in his adjustment — whether it is to a limited activity or return to his regular occupation. This presents a considerable burden because he now has to know what the patient does at his work and he has to know something about the work itself. He cannot send the patient to the factory with a note which says "Please let my patient go back to light work" if he has no notion of what light work is. We frequently see in our industry patients returning with instructions to the effect that the individual can work two hours a day. Modern industry is simply not set up for a two-hour-a-day employee. If the man cannot work eight hours, he just doesn't fit in.

As for the energy capabilities of an individual or the energy requirements of a job, it was pointed out that many factors enter into such an evaluation. Motivation, mental attitude, concurrent disease, length of time that work is done — all of these things are important considerations.

In the absence of a perfect answer, how does the doctor learn all the things that are expected about the job? Well, of course, he doesn't! He cannot learn all the answers, but he can learn to extend by communication. Doctors have always talked to wives and told them what their husbands could or could not do. They can, likewise, talk to the plant physician or to the personnel people.

Cardiacs in need of work fall primarily into two groups. First of all, there is the cardiac who has not had a previous job. As was pointed out in earlier discussions, the employer has had to assume more liability than he did before under new interpretation of the laws and consequently there is more and more resistance to taking on new cardiac employees. We would hope that these patients would be discovered as early as possible, and as soon as we know they have a handicap. By this I mean that when a harmless but potentially serious heart murmur is discovered which indicates a shortened life, or limited activity, we should begin to instruct and motivate the patient to acquire skills that will be in demand regardless of his condition and in which he will be able to perform satisfactorily.

The second group is the return-to-work cardiac — the one who has been a good employee for many years and now comes back to work. These reinstated cardiacs, who are still under treatment, present a liability problem to their employers but in most cases this is accepted. In other words, a myocardial infarction case on the anticoagulants is more liable to have, for example, some complications of bleeding should he cut himself or have an injury. The employer assumes this responsibility, but there is not much complaint.

As we have been told previously, there is no need for accident or specific incidence to prove aggravation of a cardiac condition. A man may have had three coronary attacks, all of them in bed, but if the fourth one occurs at work, the employer is responsible. This points up the need for the practicing physician to know something about the job and to communicate with people who can place this person with a clear understanding of his limitations. Community agencies could be used, however, if it is necessary to retrain the individual for different work.

INSURANCE WORKSHOP

L. J. CAREY, Chairman

From strictly an insurance standpoint, cardiacs can work and we encourage it. In view of court decisions throughout the country and more recently in Michigan, employers have been placed in a position where they will undoubtedly be considerably more reluctant in the employment of people suffering from cardiac conditions and there will be reluctance in returning employees to employment after they have had cardiac episodes. Our group discussed the matter of what we might do, or what those in the medical profession particularly might do to alleviate this condition.

Perhaps it will take legislation of some kind, but in advance of that legislation, the group felt that the first helpful step should be made by medical authorities who would establish criteria not only for the determination of causation in this type claim but some criteria as to the kind of jobs that cardiacs can do and the amount of energy that is required and can be expended by these patients in various stages. We believe that some such organization as the American Heart Association should undertake this step. Upon agreement in that organization, the material should be taken to the American Medical Association for its approval which would give the criteria a standing that could be used authoritatively from a legislative standpoint and perhaps as well from an administrative standpoint in trial cases. This would have to be done thoroughly and it would have to have endorsement by the medical organization.

Inasmuch as cardiac conditions are said to be caused originally to a large extent by forces entirely outside of those connected with employment, there seemed to be a feeling within the group that employers should not be held fully responsible for the liability existing when the cardiac condition becomes aggravated in employment. The criteria for determination of causation might then lead to legislative enactments which would place limits on the liability of the employer and society. These criteria would be the basic step in encouraging employers to employ originally and to re-employ the cardiac.

LEGAL ASPECTS

BUELL DOELLE, Chairman

It was pointed out in the workshop that with conflicting medical testimony three kinds of results are possible. Assuming that a doctor testifies for the plaintiff that aggravation of pre-existing heart disease is possible and a doctor testifies for the defendant that aggravation of pre-existing heart disease is not possible, one could in three cases under those circumstances get different results by a trier of fact in a compensation court or tribunal. He could decide (1) aggravation of pre-existing heart disease is not possible in any case by doing the ordinary work, (2) aggravation of the pre-existing heart disease is possible and it happened in this case, or (3) he could make a finding that while aggravation of heart disease is possible by doing the plaintiff's regular work, it was not possible in this case because there was some other exertion that was responsible. As we pointed out, those three varying decisions could be made on the same kind of conflicting medical testimony, depending upon the persuasion of a particular doctor or a particular set of facts, and an appellate court would not disturb it. So, you do have a proposition where there is considerable confusion. Medical science perhaps can do something to rectify the impression as to aggravation of pre-existing heart disease although it was my humble judgment that this acceptance has gone along so far that the trend cannot be reversed.

Limiting the employer's liability, we drew upon the philosophy of Arthur Larsen and his model workmen's compensation act, pointing out that he had recommended a second injury fund provision to limit the liability of an employer in case of re-employment of injured persons to 104 weeks, and that that provision necessarily included registration of the persons who had an original defect, systemic physical condition or injury; and that the employer, while bound to respond for the full compensation, would nevertheless get reimbursement for all compensation avails paid in excess of 104 weeks. We also developed this thinking, admitting that we did not know how it could be financed. This is perhaps an area where the taxpayer, through tax monies, ought to come in and do something to secure the re-employment of cardiacs. We felt that we might perhaps borrow from the English system where tax monies actually go into the payment of workman's compensation benefits, to a lesser extent than the employer. In other words, we ought to broaden the basis for payment of compensation avails to a re-employed cardiac who suffers a new personal injury.

EMPLOYMENT WORKSHOP

MAX HORTON, Chairman

It is very well to explore the medical problems, insurance problems and the legal problems, but in the final analysis what we are talking about is the opportunity for an individual to be gainfully employed. After other summary reports, I do not think I can be accused of being a pessimist when I say that there are a few stones in the path of the individual that is seeking employment and does have a cardiac history.

We discussed this matter of waivers and we could not reach an agreement on the subject. Representatives of labor felt that in the terms of the history, misuse of it, or bad faith in this area, has wiped out receptive attitude on the part of labor to this provision.

In order to retrain people, certain things have to be available. First of all, the basis for retraining must be a good educational background. Secondly, through retraining we must be able to retrain rather rapidly for a saleable skill bearing in mind that if the person who undergoes retraining does not get a job, he is even further frustrated than he was in the beginning.

We need more information about the individual and his medical history. Interviewers many times meet resistance from the individual who does not want to authorize us to go to his physician for specific information; and many times either through lack of understanding or because of the press of so much business, the medical fraternity is not inclined to cooperate. Perhaps the nature of the doctor-client relationship makes them reluctant to give us the kind of information that will allow us to develop a job for this individual. And I can assure you that we do not get any orders specifying cardiacs. We must develop that kind of order.

The handicapped, particularly the cardiac, is a responsibility of the community. For this reason we do not meet as much resistance in the smaller and self-contained communities as we do in the large metropolitan cities. There is

more cooperation at the community level, and this differs in the business of reemployment of the cardiac according to the size of the community. In the large metropolitan areas, there are all the problems that have been discussed by Buell Doelle, and there is no magic wand that gives us entrance to anyone in the personnel department or at the high-policy level that will create any job. We are going to support those who are not gainfully employed, be they cardiacs or any other segment of our population. It is a question of how we pay for it. These people are entitled to a gainful employment and, until they are gainfully employed, they are going to be a drain on our society.

As to the question, "Can Cardiacs Work?" our conclusion was "yes"; 75% of them can and want to if they get a chance.

SUMMARY STATEMENT

E. A. IRVIN, M.D., Medical Director,
Ford Motor Company

I wish to re-emphasize the statement made by Dr. Schaeffer that rehabilitation must be a *philosophy* and that any other approach is rather unsound. I should like to add that it must be a philosophy of teamwork as well. The more I review the problems which confront us from a standpoint of rehabilitation in regard to heart disease, the more I believe the fact that this decision as to whether heart disability is actually caused or is aggravated by employment has been more and more removed from the hands of the cardiologist. Unfortunately, some of the liberal decisions have been influenced by testimony of certain members of the medical profession, and it is quite true that even the best of authorities have not always agreed as to what is cause and what is effect. This situation has been amply stated by Dr. White as follows:

> In this matter, the reticent and unsure position of the reputable medical profession, the honest differences of medical opinion and the elastic consciences of some physicians, the attractive possibilities of litigation in the eyes of some lawyers, and the appalling generosity of some juries are converting industrial compensation into sickness insurance which should not be the responsibility of industry alone. Public opinion and not medical opinion is now the deciding influence in this field. All this makes the finely drawn medical distinctions of cardiac impairment quite futile insofar as their influence on legal interpretation is concerned, especially in cases of aggravation of pre-existing disease. Our disputes will never be resolved by clinical statistics, nor indeed by any statistics or probabilities so long as attorneys can produce physicians who will testify to the validity of highly improbable possibility.

Now in answer to a suggestion made by Mr. Carey, the American Heart Association's committee on the effect of strain and trauma on the heart at the present time is in the process of making a detailed scientific study of the mechanism and causes of coronary attacks in the hope of building up sufficient knowledge to help resolve this dilemma. But it must be realized that to reach such a conclusion probably will take many years. And in view of the position some of our courts take, it makes me wonder whether it will pay to reach positive conclusions in this area. I am not quite as pessimistic as some members of the panel have been in regard to rehabilitating cardiacs. I believe that if each employer would assume the responsibility to rehabilitate his own employees with cardiovascular disease, the problem would be greatly minimized.

• HARRY E. DICKSON, M.D.
Physician-In-Charge
State Employees' Health Service, and
Director, Occupational Health Service
Georgia Department of Public Health

The Management of Hypertension and "Low Blood Pressure" in the Employee

If there were one specifically known etiology of hypertension, then from an epidemiological study programs of a preventive nature could be more easily effected. This is not the case, however, thus complicating the early detection and management of hypertension in the employee. Our present knowledge of this disease at best can only relate several variables as possible etiological factors, nor can we predict the individual response to these variable factors.

Some hypertensives live out a normal span of years even with alarming elevations; others succumb to cardiovascular accidents with relative low and insidious blood pressures. All this to say that our knowledge of the etiology of this disease is indeed limited; nevertheless, because of the seriousness of this disease and its complications in certain workers, it behooves the industrial employer to institute an effective program of early detection and management.

Program of Early Detection and Referral

The early detection of hypertension in the employee is the first major step in the control of this disease.

The Georgia State Employees' Health Service has a program of multiphasic health screening tests designed to attract the employee and to counsel him in his own responsibilities toward his own health. Multiphasic health screening tests are controversial when not properly understood and fail when there is not an adequate program of follow-up. They can be an effective means of health education as proved by our four year experience. Multiphasic health screening tests are feasible when a program of complete annual physicals cannot be carried out due to economic problems or for the lack of sufficient staff.

The battery of tests offered by the Georgia State Employees' Health Service is designed to find those employees with health problems and to motivate them to seek care from their private physician.

In Table I is presented our total experience over a four year period in a health education program designed to include some 4,000 state employees who work in the Capitol area.

As of September 1, 1960, a total of 3,930 employees had been screened at least once, some as many as three times.

The battery of health tests include: weight, blood pressure, chest x-rays, urinalysis for albumin and sugar, blood sugar (2 hour post-ingestion of 50 grams of glucose and 4 hour glucose tolerance if this is abnormal), hemoglobin,

TABLE I
GEORGIA STATE EMPLOYEES' HEALTH SERVICE
FOUR YEAR PROGRAM

	1957	1958	1959	1960	Total
Total Screenings	1507	2557	1500	1039	6603
Employees' 1st Screening	1507	1726	344	353	3930
Repeat Screenings		831	1156	686	2673
Counseling	879	2022	2054	832	5787
Emergency	551	573	931	1767	3822
Other	2143*	833	1350**	1424	5750
Total Visits	5080	5985	5835	6101	28565

*Including 1950 Asian Flu immunizations.
**Routine immunizations 826.

Presented at the Workshop "Industry's Role in a Preventive Heart Disease Program," Jekyll Island, Georgia, September 17-18, 1960.

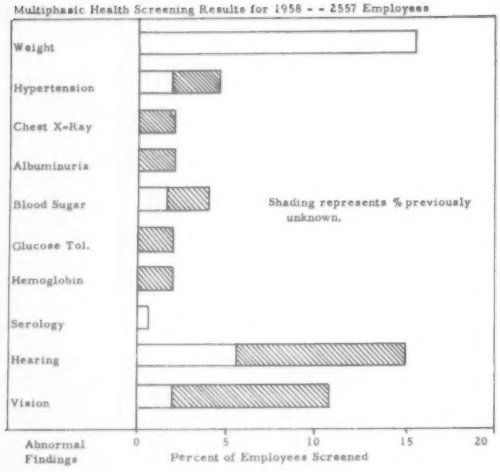


Figure 1

serology, audiometric, visual fields by Harrington-Flock Screener, and orthorator for distant, near and color vision.

In 1958, a total of 2,557 employees participated in this program. The bar graph of Figure 1 represents the abnormal findings on these tests and the shaded areas represents those employees not having previous knowledge of these abnormalities. For example, in this year 4.6% of these individuals screened had hypertension (the criteria will be defined later). Of this 4.6%, about 2.2% new cases were detected.

Among 3,930 employees having a total of 6,603 screenings, we have found a prevalence of 8.3% with hypertension over a four-year period, i.e., to September 1, 1960.

Our criterion for abnormal blood pressure is a consistent reading above 160 systolic and 90 diastolic. Employees with blood pressure above 160/90 are rechecked periodically. Those with consistent reading above 160/90 are referred to their private physician for an evaluation. A diagnosis of hypertension is not actually made by the Employees' Health Service. Our results are referred to the private physician to diagnose and treat as he sees fit. We solicit his cooperation in keeping us informed as to his disposition of these referred employees.

The prevalence of hypertension depends, of course, on the age distribution of the sample population. A random survey of 300 medical records reveals the age distribution shown in Figure 2 among those employees who have

Figure 2

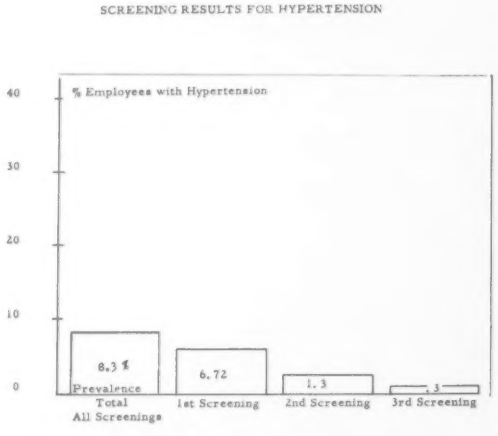


Figure 3

visited the Employees' Health Service for one or another of its services.

In a program such as this, the first step is to determine the prevalence of hypertension, then to institute a program of follow-up and management.

The detection rate on 3,970 employees with a total of 6,603 screenings for elevated blood pressure according to the criteria as previously established is presented in Figure 3.

As has been stated, a prevalence for the four year period of 8.3% hypertensives among our employees was found. On the first series of screenings, 6.72% of the employees were found to be hypertensive. On the second battery of tests, 1.37% of those previously normal were found to have hypertension a year later. Subsequently in our third battery now being offered, 0.3% were found to have developed hypertension over an 18 month period. (These rates are based on a random sample of 625 medical charts reviewed for this paper.)

Figure 4 presents the relationships we have found between obesity and hypertension among the population studied. Of the 3,970 employees surveyed during this period, 16.2% were overweight. Of this group, 12.9% had normal blood pressures and 3.3% were hypertensive. The fact remains that of 8.3% hypertensives among 3,930 employees, 38.7% of these were overweight.

The criteria for overweight used were the body frame, weight, height tables as published by the Metropolitan Life Insurance Company. We add 10% to the maximum weight as listed in these charts before labeling an employee overweight.

In cross tabulating the results of 5,564 multiple health screenings for the years 1957, 1958, 1959, we determined the prevalence for each year and the unique results shown in Figure 5 were obtained.

During 1957, the first year, 1,507 employees participated in the screening program. Hypertension by the aforesaid criteria was prevalent in a total of 9.6%. Of this number, only .2 of 1% knew they were hypertensive. During the second year, 2,557 employees responded (of which 1,726 were first screenings). The prevalence of hypertension among this group of 2,557 was 4.6% with 2.2% having previous knowledge. In 1959, the prevalence on 1,500 employees screened (344 for the first time) was 3.3% with 1.9% having previous knowledge.

The prevalence among 1,500 employees in 1959 is considerably lower than among 1,507 employees screened in 1957. The number with the knowledge of having hypertension has increased from 0.2% to 1.9%. What is the explanation?

Of the 1,507 screened in 1957, 1156 were rescreened in the 1959 series. Some admittedly may have received their first battery in 1958; nevertheless, 77% had at least been screened once before the 1959 series. It is reasonable to assume that our program of early detection and referral has netted a calculable return even though it obviously has not reduced the prevalence from 9.6% to 3.3%.

How have these employees with hypertension been managed?

Management of the Employee with Hypertension

Once it is judged that the employee has a consistently elevated blood pressure above 160/90, he is counseled by the physician or nurse in the Employees' Health Service and advised to consult his personal physician. If the employee wishes, the complete results of his health tests are referred to the physician with a letter of explanation as to the purpose of this program. He is asked to advise us of his diagnosis and disposition.

HYPERTENSION AND OBESITY

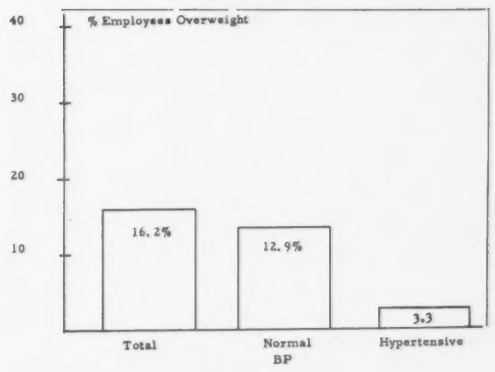


Figure 4

Many of these employees are placed on medication and the physician requests that the blood pressure be checked once each week by the Employees' Health Service. Return dates for visit to the private physician are prerequisites to having the follow-up at the Employees' Health Service. Often, the physician will advise weight reduction and leave counseling on diets to the nurse in the Employees' Health Service.

It may also be necessary to counsel the employee on the readjustment of his activities — both at work and while off work. This particular point may require counseling over a long period of time. It is difficult for a very active employee to adjust to "slowing down."

Even though these employees are under the care of their private physician, it is also well for them to have periodic examinations by the Employees' Health Service and/or the Industrial Medical Department as the case may be. These employees must be followed closely, particularly

Prevalence of Hypertension — Detection Rate on Three Series of Multiphasic Health Tests — 1957, 1958, 1959

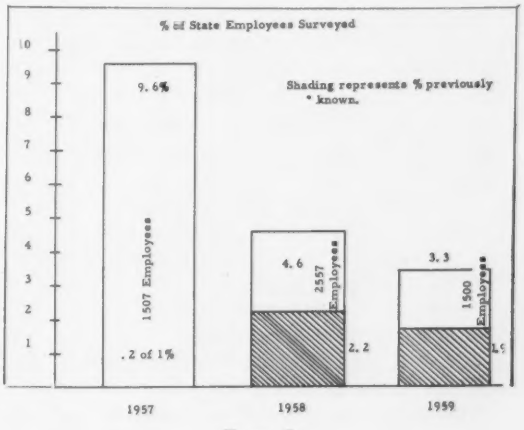


Figure 5

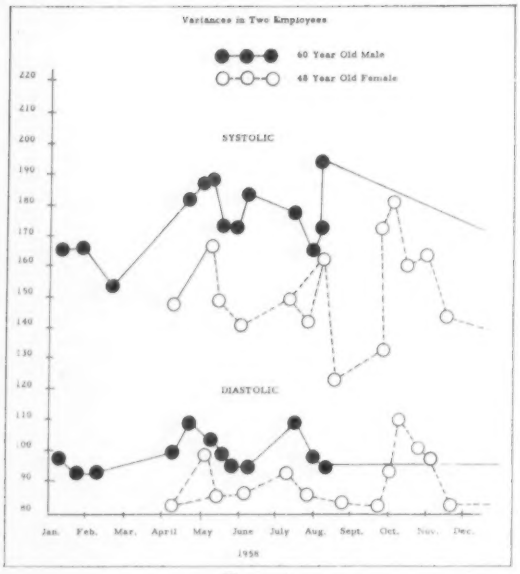


Figure 6

if their elevations are unusually high. Those on medical therapy must especially be watched.

These medications may include: Rauwolfia, Veratrum, Hydralazine, Chlorothiazide, Digitalis, Mercurials, Barbiturates, Belladonna derivatives, and others. Some of these have more side effects than the others, but by being in close contact with the private physician, and having periodic examinations of the employee, the dangers of these side effects at work can be minimized.

The most important factor in managing the hypertensive employee is to restrict the physical demands of the job to meet his altered health status. This is especially true for heavy equipment operators, machinists, riggers, linesmen, craftsmen, truck drivers, or any position where the safety of the employee and his associate workers is at stake.

These restrictions will depend on the job and the employee as well as the degree of hypertension and associated degenerative diseases. Each industry must set up its own restrictions.

Employees with blood pressures consistently over 200/100 must be severely restricted according to the following rules:

1. Weekly or every other week checks by the industrial physician or nurse
2. Not allowed to operate heavy equipment or hazardous machines
3. No excess climbing of stairs
4. Must work at ground level
5. No lifting of weight over 50 pounds
6. No excess straining

These restrictions may be modified for the more stable hypertensive, say 170/100. Each employee must be evaluated as to his own health status and the physical demands of his job. Frequent follow-up and counseling is the secret of any program of detection and management of the employee with "high blood pressure."

Evaluation of the Program

Statistical evaluation of the effectiveness of a program of this type, as to the net results in lowering the blood pressures is indeed difficult on a group basis. Blood pressure readings in hypertensives are notoriously variable even when repeatedly checked by the same examiner and at the same time of day, even following rest periods or return for checks the same day.

Over a four year period, we have followed 61 hypertensives who have had three batteries of screening tests. Many have been rechecked periodically between screening tests. The variations in both systolic and diastolic are so variable that it is impossible to group them. The only thing noted is that their readings generally were above the abnormal ranges. (Figure 6).

Of this group of 61 who have been studied in detail, 28 or 46% gave no previous history when questioned as to having any knowledge their blood pressure was elevated abnormally. Of this group, 25 or 41% were overweight; 65.5% were female, 34.5% were male. Their age distributions are shown in Table II.

Of the 61 hypertensives studied, five showed a consistent decrease of from 10 to 19 points in the diastolic reading over the four years. Three gave evidence of a consistent lowering of the diastolic between 20-30 points. This is meager evidence for the effectiveness of a program of early detection and referral. It does not speak too favorably for the effectiveness of medical management of these 61 hypertensive employees.

It seems that many variables affect the degree of evaluation, even in the unquestionably hypertensive, most significant of which seems to be emotional stress.

Fluctuating blood pressure of the hypertensives make statistical evaluation almost impossible in doing group analysis, yet it behooves the employer to seek out those employees with this disease, refer them for diagnosis and treat-

TABLE II
AGE DISTRIBUTION
61 HYPERTENSIVE: 4 YEAR STUDY

Age	Number Males	Number Females
18-29	1	
30-39		1
40-49	6	13
50-59	5	14
60-69	9	12
70-		
Total	21	40

ment, and subsequent work restriction if the physical demands of the job are not comparable to the health status of the employee.

Low Blood Pressure

The occupational health physician and the occupational health nurse are frequently presented with the complaint of "low blood pressure." This is especially true in a high percentage of female employees. They have taken everything from honey and vinegar to intravenous injections of iron cacodylate to "build up the blood pressure."

There is no such disease as "low blood pressure." To educate employees to this effect requires considerable tactful counseling. I say tactful, because this diagnosis has usually been made by the private physician. Finding no other basis for psychosomatic complaints and a blood pressure of 100/60, he immediately informs the patient of his findings.

Actually, normal blood pressures range from 90/60 to 140/90. Even individual blood pressures may occasionally fluctuate between these levels.

As long as an employee is not in a state of hypotension or shock, a blood pressure reading of 90/60, all else being considered, is normal for that individual. Counseling cautiously is the only way to dispel this "old wives' tale" of "low blood pressure."

In a few instances, postural hypotension may be the case, but this condition is not too prevalent among industrial populations.

Conclusions

The fact that there is no specific etiology of hypertension complicates a control program in the field of Occupational Health Services.

There must be an effective program of early detection, counseling, referral, and follow-up.

Among 3,930 employees screened in the Georgia State Employees' Health Service, we have found an over-all prevalence over a four year period of 8.3% hypertensives. Of this number, 38.7% were overweight. During the first battery of multiphasic health tests offered in 1957, 1,500 employees participated. That year, we had a prevalence of 9.6%. By the third series in 1959, this figure had been reduced to 3.3%. In 1957, 0.2% knew they had an elevated blood pressure. Of the prevalence of 3.3% hypertensive in 1959, 1.9% knew of their history.

While statistical evaluation of blood pressure readings are difficult for group analysis, we can attribute part of the above decreased prevalence to our program of early detection, referral, counseling, and follow-up on the multiphasic health screening tests offered in the Georgia State Employees' Health Service.

Periodic Electrocardiograms Recommended

At least 10 to 15% of heart attacks apparently occur without producing any symptoms whatever. A significant number of these "silent" attacks can be detected through routine, periodic electrocardiograms, which in turn may open the way to effective secondary prevention of coronary disease.

This recommendation for widespread electrocardiography was made by Drs. H. A. Lindberg, D. M. Berkson, J. Stamler and A. Poindexter, and is based on findings in a recently completed four year study, aided in part by the Chicago Heart Association. During the course of the study, 756 male employees of a Chicago utility corporation, aged 50 to 59, underwent a yearly physical examination including electrocardiography. Forty-one new cases of coronary heart disease developed of which 20 were definite heart attacks. Three of the 20 employees — or 15% — had heart attacks which occurred without causing any noticeable distress and would not have been diagnosed except for the E.C.G.

—Heart Research Newsletter, Winter, 1961, issue.

Dr. Ethel Browning, lately Her Majesty's Inspector of Factories, London, England, became an Honorary Member of the American Industrial Hygiene Association at its conference in Detroit last month. To the left, she is shown accepting her Certificate of Membership from Mr. Jack C. Radcliffe, President of the Association.

INDUSTRIAL HYGIENE IN GREAT BRITAIN

• ETHEL BROWNING, M.D.

The industrial medical services in Britain are partly statutory, partly voluntary. The statutory services are under the jurisdiction of the Factory Department of the Ministry of Labour, and the Factory Inspectorate includes technical, engineering, electrical, chemical, and medical inspectors. The medical inspectors are directly concerned with health problems and research into industrial hazards. They help and advise their technical colleagues in the areas to which they are assigned, and they also superintend the work of the Appointed Factory Doctors, formerly known as Examining Surgeons. These Appointed Factory Doctors have the task of examining young persons before employment and at intervals up to the age of 18, and of workers employed in some processes regarded as "dangerous," such as lead compounds, chromium plating and chemical works.

Voluntary medical services are those instituted and maintained by the employers and include doctors and nurses. They exist mainly in large factories; in small firms, employing up to 50 workers, of which there are a large number in Great Britain, these services are rare, though in some cases several of such small factories will combine to engage the services of one doctor.

In 1935, when the number of doctors in industry had begun to increase fairly rapidly, the first Association of Industrial Medical Officers decided to form itself into its own group, with an initial membership of 35. In 1961, the total number of members is 1038.

The general Association includes regional groups, each of which has its own Chairman and Honorary Secretary and arranges its own meetings, dinners and other social occasions. The purpose of the Association, as stated in its Constitution is "scientific study, social intercourse and mutual help." We have an active social side, and one of our most enjoyable and instructive features is what we call "Field Days." On these days we visit factories, to which one or more of our members act as Medical Officers, or scientific establishments such as the Radiological Protection Service, or institutions such as the British Overseas Air Corporation. I must say that the Directors of these firms and establishments are always most generous in offering us hospitality and every facility for examining their industrial and scientific processes and medical departments. We do not

Response to election as an Honorary Member of the American Industrial Hygiene Association, Detroit, April, 1961.

always confine ourselves to workaday projects. One of our most successful and enjoyable outings was when the London group paid a visit to the Brussels Exhibition. It was strenuous; we left London on Friday evening, travelled all night by train and boat, spent the day exploring the Exhibition, dined in Brussels and returned home the same night, arriving in London at 7:30 a.m., but we all felt it was well worthwhile.

There are two other British associations for the promotion of industrial hygiene — the British Occupational Hygiene Association and the Ergonomics Research Society. The British Occupational Hygiene Association, founded in 1953, resembles perhaps more closely your Association, since it includes not only doctors but also engineers, physicists, chemists and others interested in technical matters. Its object is cited as "the advancement of occupational hygiene by bringing together people who are engaged in the practice of industrial hygiene or research into its problems." Its motto, which I think is applicable to all such "people," is "*Felix qui potuit rerum cognoscere causas,*" which being loosely translated means "Happy is he who knows the causes of things."

The Ergonomics Research Society was founded in 1949 with the object of bringing together those who are studying the design of equipment for human use and the relation between human performance and the working environment — in other words, fitting the man to the job and the job to the man. It therefore embraces interests in anatomy, physiology, experimental psychology, industrial medicine, engineering.

All these associations have helped greatly by their teamwork of doctors, scientists, chemists, and engineers to improve the health and welfare of the individual worker and to advance the prestige of occupational medicine in general.

Whatever the differences in procedure in Britain or America, our aims are the same — the promotion of the welfare of the workpeople entrusted to our charge. This, in my opinion, and I am sure in that of the vast majority of the industrial medical officers in both our countries, is the fundamental raison d'être of the works doctor.

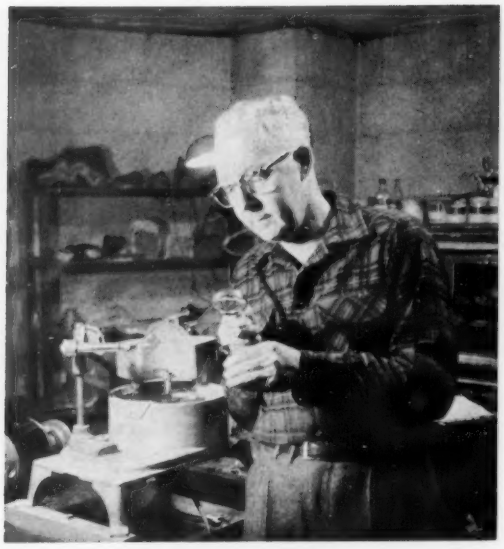
We have not yet succeeded in eliminating all the sources of injury, actual or potential, which can arise even in the best regulated processes, but we have gone some way towards it. If I may make a reference to my own personal experience, I should like to mention the case of the luminisers. Some of those girls suffered severely after the first World War as the result of the lack of knowledge and experience at that time of the effects of radium in the painting of instruments and dials with luminous paint. When I was called upon, in my function as a Medical Inspector, to take charge of the clinical and haematological examinations of all the luminisers in Britain, I should have had no idea what to look for and guard against had it not been for access to the publications of those industrial physicians in America who had been public-spirited enough to give to the world the results of their experience. The contrast between what happened to these unfortunate women and the practical harmlessness of their similar occupation in World War II is an outstanding example of what medical research and careful precautions can accomplish in the field of industrial medicine. In Britain, under the direction of the later Senior Medical Inspector of Factories, Dr. Bridge, these principles were rapidly put into effect and embodied in the Luminising (Special) Regulations, which were applied with great stringency and with equally great success. Similarly, the experience of medical officers and industrial hygienists of the serious, sometimes fatal, results of chronic exposure to that bugbear of the chemical and other industries, benzene, has been acted upon, with great diminution of its potentiality for harm.

The same applies to many other more or less deadly toxic agents which must be used, but can be used with comparative safety. New dangers arise with new industries and we still have difficult problems to face. Doctors, hygienists and engineers must all work together if they are to be solved, but we are all dedicated to the same purpose, the endeavour to protect the health and life of those who must, for the sake of productivity, use the ever-increasing number and variety of tools of industry.

It is also our duty to see that the worker understands enough of the possible hazards of the use of some of these tools to take advantage of the precautionary measures provided without setting up worry and misgiving which may affect their health in a way that only a psychologist can fully understand. Most of us are not psychologists, but it is up to us, if we are to help to preserve the balance between mind and body which is a fundamental factor in full health, to understand something of the mental and emotional outlook of those who work with their hands.

Industrial medicine has completely justified in the past its existence as a special branch of medicine, and its horizon widens every day, with ever-increasing opportunity for extending its benefits to humanity. I am glad to think that in both our countries the willingness and the ability to grasp such an opportunity are represented in our membership in closely related associations of industrial medicine.

Adventures in Avocation



Thornton I. Boileau, M.D.
With his Gemlap Equipment

JEWELS WORTH A MIND'S RANSOM

Thornton I. Boileau, M.D., Director of the Boileau Clinic in Birmingham, Michigan, was for a number of years Medical Director of the Murray Corporation of America. During World War II, he was with the Flight Surgeon, 804th Medical Air Evacuation Squadron, 5th Air Force, serving in the Southwest Pacific and Korea. There he found his avocation. The following, in his words, is a description of his hobby and an explanation of its immense satisfaction to this industrial physician.

It was in the Far East during the war that I first saw native lapidaries patiently working stones on crude equipment that had not changed in centuries. They lived in poverty and had little to be happy about, but the objects created by these simple people were beautiful. They seemed so pleased with what they were doing, that I doubt if the word neurosis has a counterpart in their language.

And so, in the evenings of postwar restlessness, I was fortunate enough to find a Lapidary course nearby and embarked on one of the nicest hobbies I know. It is surprising how quickly one learns the little tricks that change a rough, uninteresting bit of stone into a lovely polished gem. It seems to be the making of things with one's hands, and the creation of something tangible, that fills the gap for those of us in the medical profession. You become absorbed in the mechanics of making something, and all of the day's problems are completely forgotten. If you are not careful, the time will be late.

One soon learns that some of the nicest rough material is available for the taking in our own outdoors. Summer vacation trips will soon be routed through areas where agate, obsidian, jade, and sapphire may be found. Before you know it, the whole family will become rock hounds and look over creek beds as if the mother lode was just around the corner. After a summer of fun, prospecting, and trading with friends, the loot is hauled home to be sorted and cut. Patients will bring sacks of "pretty" stones that they have risked life and limb for, but

Wyoming Jade

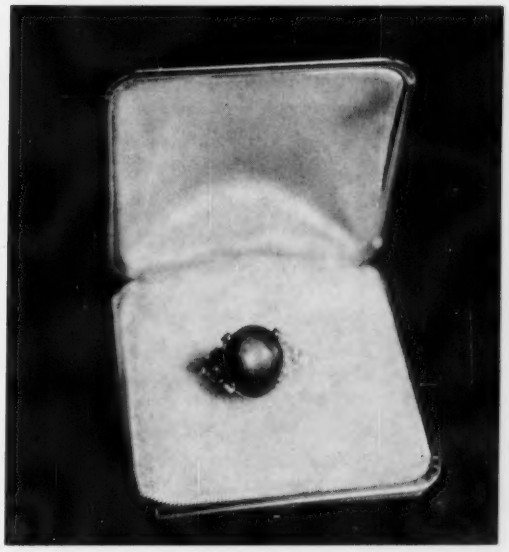
which usually end up in the rock garden. As the cutting technique improves and knowledge of material develops, we become more discriminating and at times, almost fussy.

The equipment necessary need not be large or unduly expensive. It doesn't take up much room and can be located in almost any corner of the workshop or basement. For the beginner, probably the most practical is the unit with the wheel running horizontally and mounted in a small metal tub. The various grinding and polishing wheels are interchangeable and on some, even a small saw is provided. With this type unit, all cabochon can be done. Of course as we advance, it is likely that the production of faceted stones will be a challenge, and for this, a special attachment of a faceting head is necessary. However, this may be added later and, as with most hobbies, you will develop a few ideas of your own: some make gem carvings, cut spheres or bowls. Suddenly, making big ones into little ones has become respectable.

To get instruction and advice in gem cutting is usually easy. In most large cities, there are courses given and local societies. If not, you will find any lapidary the most willing helper imaginable. There are several good journals and a number of excellent books on the subject available, but it is well to see and go over equipment with someone who has used it before purchasing your own. Most of us develop special interests in certain stones, and if you happen to discuss jade or opal, speak softly, or I will be over.

Now as to the usefulness of your handicraft; have no fear, the wife, daughter and friends will make it difficult to keep these special gems for your own collection. And then, incidently, there is a quiet peace of mind that one derives from helping nature display the beauties of her creation to a little better advantage.

—THORNTON I. BOILEAU



Star Ruby

1961 AMERICAN INDUSTRIAL HEALTH CONFERENCE

Los Angeles, California

April 11-13, 1961

The total registration for the 1961 Industrial Health Conference, held at the Biltmore Hotel in Los Angeles, was 1529. This figure includes 669 physicians and 327 nurses.

IMA Officers

At the annual business meeting of the Industrial Medical Association, the following new officers and directors were elected:

President: GRADIE R. ROWNTREE, M.D., Fawcett-Dearing Printing Co., Louisville, Kentucky.

President-Elect: H. GLENN GARDINER, M.D., Inland Steel Co., East Chicago, Indiana.

First Vice-President: JOHN L. NORRIS, M.D., Eastman Kodak Co., Rochester, New York.

Second Vice-President: EDWARD J. SHOWALTER, M.D., Western Electric Co., New York, New York.

Secretary: EMMETT B. LAMB, M.D., International Harvester Co., Indianapolis, Indiana.

Treasurer: JERMYN F. MCCAHAN, M.D., Western Electric Co., Chicago, Illinois.

Board of Directors, 1961-1964: PRESTON N. BARTON, M.D., General Motors Corporation, Meriden, Connecticut.

JOHN F. SHRONTS, M.D., General Mills, Inc., Minneapolis, Minnesota.

GORDON A. SINCLAIR, M.D., Imperial Oil, Ltd., Toronto, Canada.

RICHARD A. SUTTER, M.D., Sutter Industrial Clinic, St. Louis, Missouri.

ROBERT A. WISE, M.D., Humble Oil & Refining Co., Houston, Texas.

Meritorious Service Award

E. S. JONES, M.D., Hammond, Indiana, is the recipient of the Meritorious Service Award. Dr. Jones, Chairman of the Occupational Health Institute, is a past president of the Industrial Medical Association and a diplomate of the American Board of Preventive Medicine. He has also received a citation for meritorious service from the President's Committee for the Physically Handicapped.

E. S. Jones, M.D.

Knudsen Award

O. A. SANDER, M.D., Milwaukee, Wisconsin, was selected for the Knudsen Award. Dr. Sander is Associate Clinical Professor of Medicine at the Marquette University School of Medicine and Visiting Lecturer at the University of Wisconsin Medical School. He is a diplomate of the American Board of Preventive Medicine and author of numerous papers on occupational diseases of the lung. He is a fellow of the American College of Physicians and is a member of the Board of Directors of the National Tuberculosis Association.

O. A. Sander, M.D.

Merit in Authorship Award

G. W. H. SCHEPERS, M.D., D. Sc. was awarded the Merit in Authorship Award for his series, "Theories of the Causes of Silicosis," which appeared in the July, August and September, 1960, issues of *Industrial Medicine and Surgery*. Dr. Schepers, pathologist at the Haskell

G. W. H. Schepers, M.D., D. Sc.

Laboratory for Toxicology and Industrial Medicine of the E. I. du Pont de Nemours and Company in Wilmington, Delaware, is the author of some 90 papers in the scientific journals and currently is engaged in research on biological adaptations to physical and chemical stresses. He is a native of the Union of South Africa.

Health Achievement in Industry Award

The Chrysler Corporation of Detroit, Michigan, has been given the Health Achievement in Industry Award. "Chrysler Corporation has demonstrated that an enlightened management can achieve the highest quality of occupational medical services through a dedicated medical department. And it can render to its employees all the required preventive, therapeutic and rehabilitative measures without stepping beyond the bounds of accepted and approved occupational health programs. Another important factor in Chrysler's medical program is the scope of its research activities into plant and environmental hazards as well as studies into diseases and conditions which may help the community at large," remarked Dr. Richard A. Sutter in his presentation speech. The award was accepted by MR. JOHN LEARY, Chrysler Corporation Vice-President in charge of personnel. MARION W. JOCZ, M.D., Corporate Medical Director of Chrysler initiated the program of staff diagnostic and consulting services in the early 1940's. The current corporate medical policy and organization was developed in 1958 under his direction.

Marion W. Jocz, M.D.

Scientific Exhibits

From the 13 scientific exhibits on display at the Conference, awards were made to the following:

First place: "The Inflamed Eye," DAN M. GORDON, M.D., New York Hospital-Cornell Medical Center, New York City.

Second place: "Closure of Skin Incisions Without Sutures," THEODORE GOLDEN, M.D., ALBERT LEVY, M.D., and WILLIAM T. O'CONNOR, M.D., St. Vincent's Hospital, New York City, and Veterans Administration Hospital, East Orange, New Jersey.

Third place: "Varicose Veins and Thrombophlebitis," ALBERT FIELDS, M.D., Los Angeles.

—Los Angeles Times Photo

Mr. John D. Leary, Vice-President, The Chrysler Corporation, accepts Health Achievement in Industry Award from R. A. Sutter, M.D.

Occupational Health Institute

The new President of the Occupational Health Institute is EARL A. IRVIN, M.D., of Dearborn, Michigan. ROBERT E. ECKARDT, M.D., Linden, New Jersey is Vice-President.

American Association of Industrial Nurses

At the nineteenth annual meeting of the American Association of Industrial Nurses, RUTH WHITFIELD, R.N. of New York City was elected President. Miss Whitfield, a supervising nurse for Texaco, Inc., will serve a two year term. A graduate of Presbyterian Hospital in New York and Columbia University Teachers College, she is a past president of the New York State Association of Industrial Nurses and of the Greater New York Association of Industrial Nurses. She succeeds Margaret L. Steele, R.N., of St. Louis, Missouri, who has served as President of the Association since 1959.

Other new officers include: MARIESTHER JOHNSON, R.N., First Vice President; EDNA WATSON, R.N., Second Vice-President; MARY WHALEN, R.N., Third Vice-President; MABEL ZACHARY, R.N., Recording Secretary; JOYCE BENOIT, R.N., Financial Secretary; and EVELYN JOHNSON, R.N., Treasurer. Six Directors were named: MARY DEEGAN, R.N., PAULINE MELTON, R.N., RUTH PATTERSON, R.N., CONSTANCE POWERS, R.N., EDITH RUSSELL, R.N., and ELEANOR WILLIAMS, R.N.

THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION

Twenty-third Annual Conference

Detroit, Michigan, April 9-13, 1961

The age of legal maturity for persons is fixed by law, but for some persons real maturity never arrives. The attainment of maturity by scientific associations is not fixed by enactment, but as to the American Industrial Hygiene Association there is no uncertainty. In its Detroit sessions under the Presidency of Jack C. Radcliffe, that association demonstrated a high order of professional maturity, durability and responsibility.

For AIHA the year 1961 was crucial. For the first time in its scientific sessions, it stood apart from related bodies with which it had long convened, although the Detroit sessions were conducted simultaneously with the American Conference of Governmental Industrial Hygienists, under the Presidency of General W. L. Wilson. Prior to the Detroit sessions there may have been some misgivings that AIHA possessed the capacity to stand as an integer. After the sessions there were none.

The solid core of evidence of the stability of AIHA was the high order of scientific presentations. Through no procedure under Heaven given to reporters is it possible to portray in ample and satisfactory manner, the merits of scores of technical pronouncements. In detailed printed form over the months to come this evidence will become apparent. Better lending themselves to narrative account are the ceremonials, the trappings and the festivities. Among such are the following items:

The newly elected officers of AIHA are:

President: W. G. HAZARD.
President-Elect: K. M. MORSE.
Treasurer: H. E. STOCKINGER.
Secretary: W. S. JOHNSON.
Executive Secretary: G. D. CLAYTON.

New Directors: A. C. EINERT
J. C. CHOLAK
H. J. PAULUS

The highest bestowal of AIHA is its Cummings Memorial Award. This year this award was made posthumously to MR. MANFRED BOWDITCH, the late Industrial Hygiene Director of the Lead Industries Association, New York. An appropriate record of the life, attainments and contributions of Mr. Bowditch was presented by Thomas Shipman, M.D., of Los Alamos, New Mexico.

Mr. Radcliffe (left) presenting the Cummings Memorial Award posthumously granted to Mr. Manfred Bowditch. The recipient in behalf of Mrs. Bowditch is Thomas L. Shipman, M.D. The smiling lady is Mrs. Radcliffe.

The dramatic event of the Detroit sessions of AIHA was the investment of four distinguished industrial hygienists with honorary membership. Those as honored were:

Clarence D. Selby, M.D.

ETHEL BROWNING, M.D., London, England, Lately Her Majesty's Inspector of Factories.

CLARENCE D. SELBY, M.D., Formerly Medical Director, General Motors Corporation, Port Huron, Michigan.

FRANK A. PATTY, Formerly Director of Industrial Hygiene, General Motors Corporation, Marine City, Michigan.

Mr. Radcliffe (left) presenting to W. F. Von Oettingen, M.D., Ph.D., Certificate of Honorary Membership in the Association.

W. F. VON OETTINGEN, M.D., Department of Health, Education, and Welfare, Public Health Service, Bethesda, Maryland.

The only other living honorary members on this coveted roster of AIHA are: ALICE HAMILTON, M.D., ROYD R. SAYERS, M.D., A. G. CRANCH, M.D., CAREY P. MC CORD, M.D., A. J. LANZA, M.D. The text of Dr. Browning's speech accepting honorary membership appears in this journal on page 200.

Currently there are 1194 members of AIHA. Attending the Detroit sessions were 750 persons. This high registration, the highest in the history of the association, reflects a dedication and devotion seldom achieved in scientific bodies.

The 1962 assembly of AIHA will be staged in Baltimore, Maryland. There again the association will stand on its newly found sturdy legs.

Mr. Radcliffe (right) presenting the Certificate of Honorary Membership in the Association to Mr. Frank A. Patty.

Mr. W. G. Hazard (left), the new President of the AIHA, presenting a plaque to Mr. Jack C. Radcliffe, retiring President: "Presented to J. C. Radcliffe in recognition and grateful appreciation of creative and inspiring leadership as president of this Association during 1960."

American Conference of Governmental Industrial Hygienists

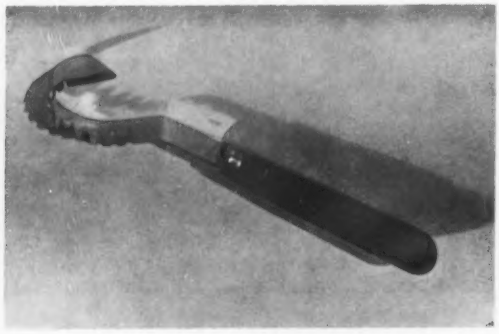
DR. W. L. WILSON, Chief, Occupational Health Section, North Carolina State Board of Health, was elected Chairman of the American Conference of Governmental Industrial Hygienists at the organization's annual meeting. MR. ANDREW D. HOSEY, Chief, Training Operations Section, Division of Occupational Health, Public Health Service, U. S. Department of Health, Education, and Welfare, was elected Secretary-Treasurer.

DR. HERVEY B. ELKINS, Director of the Division of Occupational Hygiene, Massachusetts Department of Labor and Industries, received the Award of Merit of the American Conference of Governmental Industrial Hygienists.

Dr. Elkins was cited for his outstanding and sustained contributions to industrial hygiene and to governmental industrial hygiene in particular.

Dr. Elkins was especially commended for (1) his work in validating and establishing threshold limit values through careful analytical chemical examinations and observations of the response of workers at specific levels of exposure; (2) his correlation of atmospheric exposure levels with corresponding chemical levels found in the blood or urine of the exposed worker; (3) his publication of an extremely useful and authoritative reference book which has made his studies available to others; (4) his long-time efforts in the development and adoption of effective labelling regulations for hazardous chemicals used in our nation's workplaces; and (5) for his development of procedures for the effective operation of an industrial hygiene program in an official governmental agency.

Medically Irrelevant



Is this a Gastric Curette?

From time to time this Journal publishes photographs of odd objects seeking identification by readers. These objects could be surgical instruments but not necessarily are such. Some objects earlier published have never been identified by readers. For one it was necessary to send to the Silver Vaults in London, but even there the identification made was a cautious one with some reservation.

Here is another. To the first person sending in the correct identification, the object itself will be awarded. That will be no great boon. Yet the fact remains that few of these instruments may be found in the United States.

This Journal will wait two months. If no one has provided the correct identification the answer will be published in the next issue. Then the object itself will be stored away in this Journal's museum of oddities, presently consisting of one desk drawer.

Letters

To The Editor:

In the March, 1961, issue of *Industrial Medicine and Surgery*, Vol. 30, No. 3, page 101, there is an article, "Tennis Leg — A New Method of Treatment," by Eugene J. Morhous, M.D. Several of us have read this article and we wish to take exception to it on several grounds. First of all, the term "Tennis Leg" should really be discarded, inasmuch as this is not specific in its implication. Furthermore, in the past the term has fairly well, but questionably, been reversed for a sudden tear of the plantaris. Apparently, this author now tries to change the meaning of the term "Tennis Leg" to a partial tear of the medial head of the gastrocnemius at the musculotendinous juction. This is a definite entity; why not call it exactly what it is?

Secondly, we disagree with the author's implication that a torn muscle can be cured by the injection of procaine and prednisolone. We agree that this will relieve the patient's symptoms but certainly is not a cure all.

—CLAUDE N. LAMBERT, M.D.

To The Editor:

I wish initially to thank Dr. Lambert for taking the time to write regarding this article. I believe the points he raises are certainly well-founded.

The term "Tennis Leg" is admittedly a poor one but did not originate with me, having been used in the literature on this subject for many years, particularly by European authors. It is comparable to the widespread use of the misnomer "hay fever" in this country. As was pointed out in the article, none of the cases treated in this series occurred as the result of playing tennis, however, it would be presumptuous of me to offer a change in terminology following this meager contribution. Further, I have no suggestions or ideas regarding a more acceptable term. I offer this chore to the lexicographers.

Prior to developing greater interest in this condition I had always felt, as Dr. Lambert and many others, that the primary involvement was in the plantaris. However, all of the definitive investigations cited in the paper, involving actual surgical exploration, failed to confirm this concept but rather demonstrate the pathology to be in the gastrocnemius. I believe our erroneous concept originated from anatomical teachings that were unfortunately clinically unconfirmed. Personally, I have now ridden the polemical pendulum to the diametrically opposite concept that a symptom entity involving trauma of the plantaris does not exist outside of the anatomy laboratories.

The use of the term "cure" was unwise. It was used to denote complete relief of all symptoms which is, of course, academically not necessarily a cure of the underlying pathology. I regret its use and appreciate Dr. Lambert pointing out its inaccuracy. —EUGENE J. MORHOUS, M.D.

ERRATUM

In the article, "Tennis Leg — a New Method of Treatment," 30:3, p. 101 (March, 1961), the term "plantar extension" should be substituted in place of "plantar flexion."

Books

Toxicity of Industrial Metals

Ethel Browning, M.D. $10. Pp. 325. Butterworth & Company, London, 1961.

Any book by Ethel Browning will be rated as fundamentally sound before any reading. Having examined this present book it is not astonishing to discover that the trust just mentioned has not been abused. In the opening chapter on a specific metal the author identifies herself and her book as of British origin by the use of "Aluminium." The name first proposed by Davy, not that he was its discoverer, was "alumium." This was changed by him to "aluminum" but later to "aluminium" to be consonant with sodium, potassium, lithium, and others. There is substantial authority for the use by the author of "aluminium" and for the use in this country and some others of "aluminum." All debate is but quibbling.

There are many old classifications of metal; such as the precious metals, the useful metals, the heavy metals and others. All such classifications are artificial and well-nigh useless. At the present time all metals are useful. On this account this author has avoided all attempts at groupings of the metallic elements.

Yet it might be assumed that some opportunity exists for the grouping of metals in terms of kinship in their major injurious activities. It is strikingly true but with a few exceptions that metals as to their harmful properties are individualistic. Taking the four metals that begin with the letter "m," magnesium, manganese, mercury and molybdenum, no two present much kinship in their damaging properties. This is true for practically all other metals. It is praiseworthy that this author has avoided any grouping in terms of pathology.

This paves the way for the presentation of metals on an alphabetical basis from aluminium to zirconium. Forty-four metals constitute chapter headings. Possibly a few more might have been included, but the author is careful to specify that she is concerned only with "principal" metals. Because of slight importance from the industrial toxicological point of view three metals were omitted; calcium, potassium and sodium. No mention is made of the metalloids with the exception of phosphorus, and that only to its exclusion.

A characteristic of all of this author's book publications is orderliness and conformity to a somewhat fixed pattern of presentation. Thus in each chapter there are such uniform section headings as to metals as: occurrence; properties; production, industrial uses; metabolism; toxic effects in animals; toxic effects in human beings and bibliography. Any reader knowing what be sought will be served by this arrangement.

A concise review of this book may be found in one paragraph of its preface:

> This book is intended to represent a survey of the main features of the occurrence, preparation, physical and chemical properties, metabolism, and toxicology of the principal metals encountered in modern industry. Special attention has been devoted to the metabolic features: first, from the point of view that a knowledge of their paths of absorption, excretion and distribution within the body may indicate how and where their potential toxic effects are likely to be exerted and therefore in some measure how these effects can be prevented; secondly, with a view to the increasing importance of the possibility of the entry of some of them in radioactive form from nuclear fall-out. The radioactive aspect has not been examined in detail, except where experiments with labelled metals have been carried out to elucidate their metabolic behaviour. A full description of this aspect of the subject belongs properly to publications devoted exclusively to nuclear physics.

The over-all appraisal of this book becomes a matter of simplicity. For anyone devoted to occupational diseases, whether the industrial physician, the toxicologist, or the industrial hygienist, this book will prove as indispensable as the *Book of Common Prayer* for the vicar.

Advances of Biology of the Skin. Volume I, Cutaneous Innervation

William Montagna, Editor. $10.00. Pp. 203, illustrated. Pergamon Press, New York, 1960.

This relatively brief book consists of papers presented at the symposium on "The Biology of Cutaneous Innervation," held at Brown University, January 24 and 25, 1959. The articles arranged in nine chapters present the newest knowledge of structure, patterns, and histochemical characteristics of cutaneous nerves and end organs, central patterns of afferent impulses, mechanisms of common sensitivity, and structures, processes and pathophysiology of itching. The authors are all well-known English or American investigators.

Over-all quality and readability is good for a presentation of this type. For those interested in cutaneous innervation, this concise, authoritative little volume will provide a valuable source of fundamental up-to-date information on the subject.

—LEO J. MIEDLER

Proceedings of the Pneumoconiosis Conference, Witwatersrand, Johannesburg, 1959

A. J. Orenstein, Editor. $22.50. Pp. 632. Little, Brown and Co., Boston, 1960.

About every 10 years there is staged somewhere in the world a major conference on the pneumoconioses. The last was conducted at the University of Witwatersrand, Johannesburg, South Africa, in 1959. This was no hurried affair. More than two weeks were devoted to deliberate but not leisurely discussions of all aspects of the pneumoconioses. It would appear that no aspect of the dusty lung diseases was omitted and from the size of the published record it would appear that no word failed to reach this stage of print. Sixty-seven members constituted this conference with representation from many of the industrial countries. The United States had the following representatives: Dr. T. F. Hatch, University of Pittsburgh, Pa.; Dr. E. P. Pendergrass, Hospital of University of Pennsylvania, Philadelphia; Dr. O. A. Sander, Marquette University, Milwaukee, Wis.; and Dr. A. J. Vorwald, Wayne State University, Detroit, Mich.

It is impossible rightly to review these elaborate proceedings. From nearly five pages that merely list the contents, a few items are picked at random to reflect the trend of the discussions:

The Radiological Diagnosis of Early Silicotic Nodulation.

How Much Physiological Information Can Be Obtained from a Plain Radiograph?

Changes in Clinical, Pathological and Radiological Findings Due to Ageing.

Proposed New International Classification of the Radiographs of Pneumoconiosis.

The Part Played by Free Silica in the Pathogenesis of Coal Workers' Pneumoconiosis.

The Clinical and Epidemiological Aspects of the Role of Tuberculosis in Pneumoconiosis.

Statistical Studies on Dust Exposure, Occupational Type, Age of Entry, Physical Characteristics of Entrant and Progression in Relation to Pneumoconiosis.

It is readily understandable why the proceedings of the conference in February of 1959 would not come to the hands of some until well into 1961. The assembly and editing of scores of manuscripts must have constituted a stupendous task. However, this volume is well worth the waiting. For all physicians, industrial hygienists, and others concerned with industrial lung disease this book may well serve as a guide until the next major conference, indefinitely some 10 years ahead and at this time perhaps wholly unplanned. In truth, this volume will be useful not merely up to the next conference but for many other years to come.

Modern Trends in Occupational Health

R. S. F. Schilling, Editor. $13.50. Pp. 313, illustrated. Butterworth & Co., Ltd., London, 1960.

Dr. Schilling, as editor, has assembled an engaging book consisting of 21 chapters written by 25 distinguished authors. This is not a comprehensive text on occupational health. Nor was it intended so to be, but as planned and as indicated in the title this book represents an appraisal of the immediate in occupational health with particular reference to the British Isles. The lack of continuity which here is not a fault is reflected in the titles of five successive chapters: Industrial Pulmonary Disease, The Toxicology of Metals, Safety in the Use of Pesticides, Occupational Cancer, Radiation Hazards.

This book is not a single portrait of occupational health, but a series of portraits, the whole constituting an exhibition of portraits of newness, trends, and the present state of occupational health. If you would know what is going on in occupational health, read this book.

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May, 1961

VOLUME XXX

NUMBER 5

"Titleosis"

During the late war certain Army bases were considered incompletely staffed unless they had a "Psychiatric Officer." There weren't enough psychiatrists to go round, but Psychiatric Officers were appointed nevertheless. At a camp in the South a young lieutenant, critically injured in an automotive accident, had difficulty in swallowing. Promptly the newly appointed Psychiatric Officer ordered him into the ward of barred windows and locked doors. "Emotional block," he said. "The lieutenant wants to go home." Fortunately for the lieutenant it was discovered in time that he had a broken neck.

Another "brevet psychiatrist" — this one at an Army base where many civilians were employed — submitted to a leading medical journal for publication under his name, an impressive looking article on psychiatry in industry. The editor returned it, pointing out that, except for the opening and closing sentences, it was a verbatim copy of the contribution of a well known industrial psychiatrist to a lately published textbook. The editor was roundly berated, by the overnight "Psychiatric Officer" *and* his commanding officer.

These incidents pertain to a disease that is among the oldest and most prevalent in the world. One need not be afflicted with it in order to be affected by it; the ratio of those who have it to those who, in one way or another, are troubled because of it, is as one to many. And it seems to be wholly taken for granted; since time immemorial it has been so completely woven into the fabric of living that it is accepted as inevitable — something to be endured with the best grace possible. That the foregoing incidents relate to psychiatry may bear significance, for the disease is so much within the province of the psychiatrists that if ever anything is to be done about it they will have to do it.

In top circles this malady is associated with such things as coronations, revolutions, *coup d'etat*, investitures with authority, accessions to place and power. Lower down it erupts from elections, promotions, appointments, preferential designations, titular ordinations. Once in a while it will run a short course; mostly it feeds on itself, becomes intractable. When it occurs among those in high places the results of its devastations are the dark pages of history. At common levels its manifestations are less severe — in extent, if not in degree. Although these manifestations nourish a vast literature, both poetry and prose seem careful not to distill them into a definition. Mention of the disease is usually

oblique. Thus Epictetus: "But if you chance to be placed in some superior position, will you presently set yourself up for a tyrant?" And Brutus: "He would be crowned; how that might change his nature, there's the question." Kipling is more direct: "But a servant when he reigneth is confusion to the end." Hawthorne ventures: "Some ailment in the spiritual part." Almost a description is found at the level of the adage — thus: "Some grow; many more just swell." For "ailment" it is; swelling is the predominant symptom; "swelled head" the commonest name. Other symptoms are a certain strut and swagger, and a disposition to throw one's weight around.

This has application in all kinds of endeavor. Government evolves its tyrants; politics its "insolence of office"; medicine its hierarchs; theology its wall-to-wall-carpeted Olympus; discipline its martinets; art and literature their arrogant critics; education its pedants of the closed mind; industry its petty authorities. All these, in a greater or less degree of influence, together with the trappings of place — the long gamut from the luxury of the bank president's Cadillac to the threat implicit in the union button on the milkman's cap — are as much a part of the average day as the police car's siren.

The common denominator is a matter of titles. An organized society without titles is unimaginable, and so the organization charts are full of them. The trouble, however, is not with the titles but with their holders. Give a man a title and watch him expand, usually to the utmost limits of its implications. When the expansion is a steady and responsible growth the result is all that can be desired, and everybody is happy. But when it begins with the characteristic immediate swelling and continues into the customary permanence, then there's another instance of what a title can do to a man, another case of what might be called "titleosis" — possibly a more elegant term than "swelled head!"

The world of employment is full of "titleosis." And few there are who haven't encountered the embodiment of one or more of its protean manifestations and their myriad effects. Thus the harvest of a single day of interested observation: The executive whom his underlings refer to as "my superior officer"; the manager who is unmindful that his position is bigger than his ability; the personnel official who "majored in psychology"; the new young man with the degree in business administration; the efficiency expert attacking the human equation with a slide rule; the aptitude tester whose own aptitudes, if any, are obviously in other fields; the reviewer who dictates how the book should have been written; the prelate whose spiritual office thrives best in the comfort of his physical one; the man who carries on his shoulder the chip that is labeled "I guess you don't know who I am." The impact of one or more of these and their countless kind is the daily fare of most of those who work and study and strive to make sense of their time on earth. Small wonder that so many of them stop off at the tavern on the way home.

Probably the most interesting, and, objectively, the most exasperating, manifestation of "titleosis" is the explosion-into-qualification which occurs when a title that reflects education and experience in a particular field is taken on by one who has neither, but who because of the title will immediately assume both. In general, this kind of occurrence is by no means uncommon. In particular, it has been a not infrequent phenomenon in the development of the safety director and the industrial hygienist. Apparently it was known in olden times, and the ancients seem to have become inured to it. Conforming to their need to have a deity for each of the inevitable phases of their lives, they invented the goddess Minerva, who sprang "full-panoplied from the brow of Jove." The military has preserved the tradition. It is in the military that the acquisition of "instant" professional status *by order* has come to full flower.

All this is by way of an invitation to thought. Many times, in his contacts with the troubled ones who come to his department, it will be helpful to the Medical Director to remember that in all probability there is a case of "titleosis" somewhere in the background. Indeed, it might even be sitting before him. —A. D. C.

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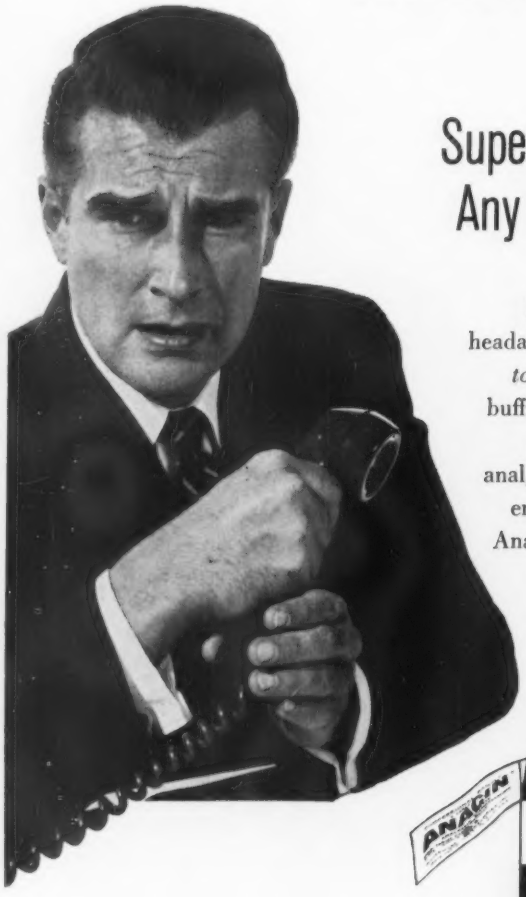

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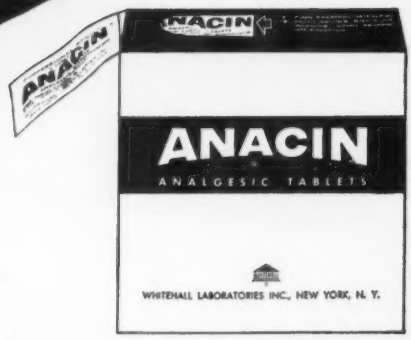

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COMMENT AND OPINION

Long Live the President

When President John F. Kennedy was sworn in on January 20, it was the first time in 75 years that three ex-Presidents were alive for an inauguration, according to statisticians of Metropolitan Life Insurance Company.

At that time, Dwight D. Eisenhower was 70, Harry S Truman was 76, and Herbert C. Hoover was 86. Happily, the statisticians point out, both Mr. Hoover and Mr. Truman have already lived for a longer time since their inauguration than would have been expected on the basis of mortality conditions prevailing at the time they took office.

Since the Civil War there have been only two other Presidents, Grover Cleveland and William H. Taft, who have outlived their expectation of life at inauguration. The 15 deceased Presidents from Lincoln to Franklin D. Roosevelt lived about eight years less, on the average, than expected. Even if the three who were assassinated while in office, Lincoln, Garfield, and McKinley, are omitted from the record, the actual years lived by the deceased Presidents of the post-Civil War era still averaged 6.6 years less than expected at their inauguration.

The earlier Presidents had a much more favorable longevity. The 15 Presidents from Washington to Buchanan lived an average of one and one third years longer than their expectation of life at inauguration, and the first 10 outlived their expectation of life at inauguration by an average of about four and a half years. Of the first 10 Presidents, only Washington and William H. Harrison fell appreciably short of their expectation of life — Washington by 4.7 years and Harrison by 9.3 years.

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Medical Director: 38; MD, Tufts; 2 yrs plant phy, leadng co; 5 yrs, plant psy, lge pharm co; seeks med dir, lge co or plant chief phy; Dipl, Prev med; Cert, Occ med; MPH; highly recommended.

Medical Director: MD, Univ of Wisc; 6 yrs med dir & consultant, lrg nationally-known co; also, Clinical Instructor, Indus med, & Lecturer Occ Hlth, univ med schl; seeks Med dir, lge co; MW, NE or E.

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Staff: 29; 2 yrs USPHS; past 8 mos, priv pract; seeks career post, occ med; in smaller coll town in E, pref Pa, Va, Md.

Staff: Bd elig, occ med; wkng twd MS, import grad schl PH, completing formal trng; seeks post w/oppor for advance.

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Supplemental oral antibacterial therapy is advisable in the treatment of severe infections or those which may become systemic.

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Eye/Ear Suspension – *Ocular Conditions:* 1 or 2 drops into the affected eye three times daily. *Otic Conditions:* In external ear canal disorders, 2 to 4 drops three times daily, or as required. Keep dropper out of contact with infected area. In eye/ear infections that are deep-seated or spreading, systemic therapy should be employed concurrently.

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age 90, or 16 years in excess of his expectation of life at inauguration. At the other extreme, Garfield was the shortest-lived, dying from an assassin's bullet at the age of 49 — 19 years short of his expectation of life. Polk and Harding died at 53 and 57, respectively, 16 years before their time. Franklin D. Roosevelt was 63 when he died, eight years short of his expectation of life at the time he took office.

"Considering that there have been only 34 Presidents of the United States and that their longevity record has varied from one historic period to another," the Metropolitan statisticians conclude, "it is not possible to say whether or not the presidency shortens life."

TB Among Physicians

How serious is the threat of TB infection as far as physicians are concerned? This question has bothered the experts for some time. There is, however, almost no information on the subject because of the great difficulty of establishing any program of systematic mass testing among that group.

In order to get at least partial answer, students at Johns Hopkins School of Hygiene and Public Health have been systematically Mantoux tested for the last nine years. The testing was done as part of the epidemiology instruction to illustrate the variability of test interpretation. The results were described in the November, 1960, issue of the *American Review of Respiratory Diseases.*

The students were divided into three groups for the purpose of the test — physicians, nurses, and other professions. The results were also classified according to age and residence.

Of 137 U.S. physicians tested, 64 (47%) reacted to the test. The percentage of reactors was almost twice as high among the 142 foreign physicians, 115 or 81% of whom reacted to the test.

Among U.S. physicians the percentage of reactors rose sharply — from 39 to 78% — in the age group 40 years and over. This is believed to be partially due to the greater opportunity for infection which existed in earlier years, as well as old age. (In the general population, too, the largest number of new cases are found among men of age 45 or over.)

This rise in the age groups was not found among foreign physicians whose reaction remained fairly constant — 76 to 84%.

In the other categories, too, the foreign groups showed a higher incidence of infection than did the U.S. groups. However, in both cases the percentages were lower than those for physicians, which supports the contention that the risk of infection among physicians is considerable.

In spite of the high rate of infection, the mortality rate among physicians is much lower than in the general public. This fact may be partly explained by better opportunities for early diagnosis and adequate therapy.

Films for Physicians

Physicians who wish to obtain films of medical subjects have several sources of supply available to

them. Every state health department as well as many city health departments operate film libraries, and the Communicable Disease Center of the Public Health Service maintains a Film Library which is designed to supplement state and local resources. A catalog is available.

Two series of films nearing completion will soon be available from other sources. A series of 19 two to 12 minute teaching films in the field of microbiology have been prepared by the University of California. They may be obtained from Educational Film Sales, University Extension, University of California, Los Angeles (purchase or rental), and from the Society of American Bacteriologists, School of Medicine, University of Pennsylvania, Philadelphia (rental). The Physical Diagnosis Series, a series of seven (so far) teaching films for nurse, student or physician refresher: made at medical schools all over the country and narrated by outstanding teachers, they are available for rent or sale through Audiovisual Utilization Center, Wayne State University, Cass Avenue, Detroit, Michigan.

Many excellent filmed and taped TV programs in the field of health and medicine are available for rental from the National Educational Television Film Service, Audio-Visual Center, Indiana University, Bloomington. A catalog will be supplied on request.

Chemical Safety Data

Revised editions of four chemical safety data sheets are now available from the Manufacturing Chemists' Association, Inc. These booklets on Benzene, SD-2; Nitric Acid, SD-5; Paraformaldehyde, SD-6; and Anhydrous Ammonia, SD-8, list not only the characteristics of these chemicals, but also the hazards, engineering control of hazards, employee safety procedures, fire fighting techniques necessary, recommended handling and storage practices, tank and equipment cleaning and repair procedures, waste disposal, medical measures necessary, and first-aid requirements.

Bracing News

The development of a radical new leg and ankle brace which approximates the normal human ankle and which is expected to revolutionize below-knee bracing has been announced by the Easter Seal Research Foundation.

The experimental brace will enable crippled persons to walk with relative freedom, permitting all normal action of the ankle, including side-to-side and rotation motion, in contrast to the inhibiting, single up-and-down motion of present braces. Thus it overcomes a major handicap in ambulation encountered by victims of crippling conditions, and it will, in effect, provide opportunity for the same flexibility of action enjoyed by persons with normal ankles.

The appliance, not yet ready for production, is the result of a three-year, $90,000 pilot study at the Biomechanics Laboratory of University of California Medical Center, San Francisco, directed by Verne

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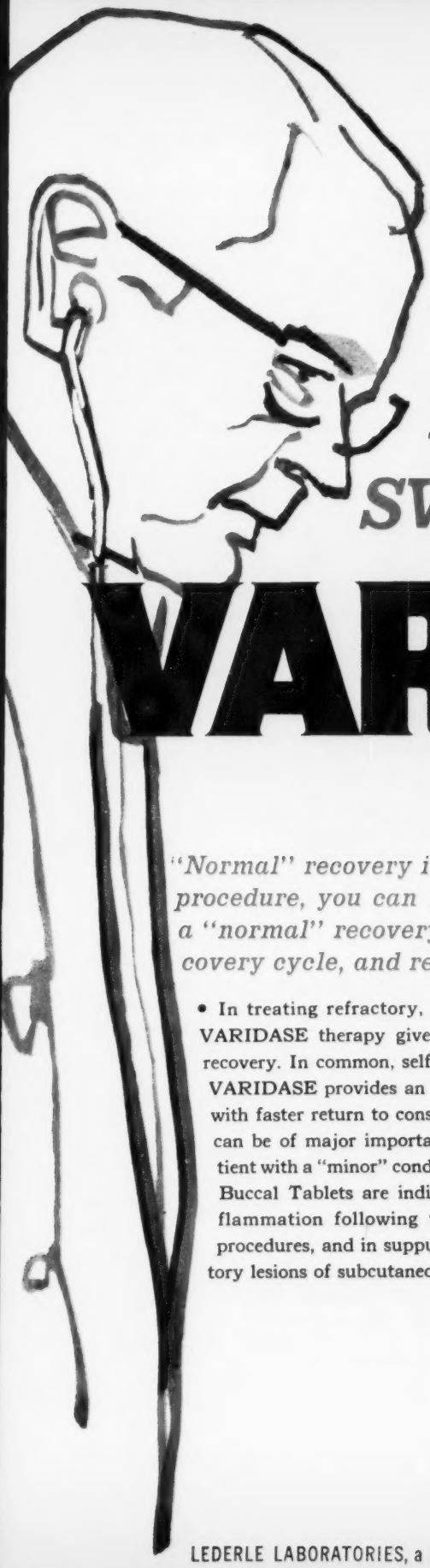

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• Dosage: *One buccal tablet four times daily usually for five days. To facilitate absorption, patient should delay swallowing saliva.*

• Supplied: *Each tablet contains 10,000 Units Streptokinase, 2,500 Units Streptodornase. Boxes of 24 and 100 Tablets.*

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

massages pain away in musculoskeletal involvements[1]

GER-O-FOAM
(aerosol foam)

relieves pain, spasm; improves function increases tolerance to exercise

GER-O-FOAM's exclusive formula provides for the first time deeply absorbed analgesic-anesthetic agents in aerosol form — to permeate and anesthetize sensory nerve endings.

Relief in minutes, lasting for hours in . . . rheumatoid arthritis, osteoarthritis, muscle sprain, fibromyositis, low back pain . . . even in chronic intractable cases.

GER-O-FOAM combines: Methyl salicylate 30%, benzocaine 3%, in a neutralized emulsion base, permitting fast penetration through the stratum corneum.

Sample and reprint from

GERIATRIC PHARMACEUTICAL CORP.
Bellerose, New York

Pioneers in Geriatric Research

1. Gordon, E. E. and Haas, A.: Industrial Medicine & Surgery 28:217, 1959.

T. Inman, M.D., and financed by Easter Seal funds. All previous concepts of bracing were discarded at the outset of the project, and a careful, analytical study of the normal ankle and its function were done.

As described by the Biomechanics Research Group, one of the principal accomplishments of the study has been the development of an experimental drop-foot brace, embodying two radically new concepts. The first is the use of a two-joint mechanical ankle system which approximates closely the two-joint action of the anatomic ankle. The second is the attachment of a variety of springs, stops, and other control devices to the brace framework, thus making it a system of external control.

Some of the important advantages of the experimental brace, the research team points out, are 1) all normal motions available at the ankle joint can be retained; 2) the functions of residual musculature acting about the ankle joint may be retained, assisted, or limited, as desired; 3) the balancing actions of the ankle-joint complex are permitted to operate; and 4) the discomfort created by the calf band as it rubs on the skin is eliminated.

Anatomically and physiologically the new brace appears to be sound. However, clinical trials will be required before an adequate evaluation can be made. This new device will not be made available until such an evaluation has been completed.

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For the irritable G.I. tract

Milpath acts quickly to suppress hypermotility, hypersecretion, pain and spasm, and to allay anxiety and tension with minimal side effects.

AVAILABLE IN TWO POTENCIES

MILPATH-400—Yellow, scored tablets of 400 mg. Miltown (meprobamate) and 25 mg. tridihexethyl chloride.
Bottle of 50.

Dosage: 1 tablet t.i.d. at mealtime and 2 at bedtime.

MILPATH-200—Yellow, coated tablets of 200 mg. Miltown (meprobamate) and 25 mg. tridihexethyl chloride.
Bottle of 50.

Dosage: 1 or 2 tablets t.i.d. at mealtime and 2 at bedtime.

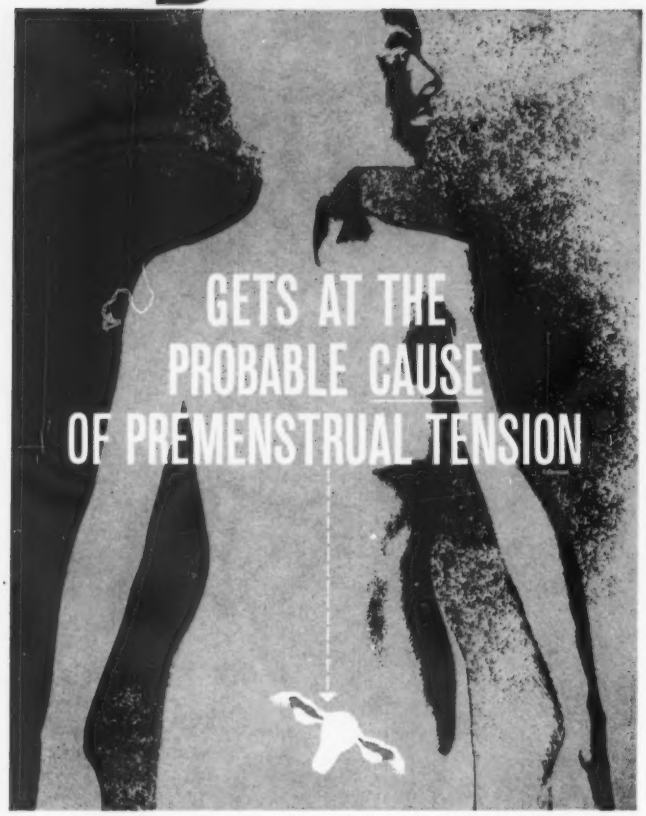
Milpath®

®Miltown + *anticholinergic*

WALLACE LABORATORIES *Cranbury, N. J.*

Upjohn

Cȳtran†

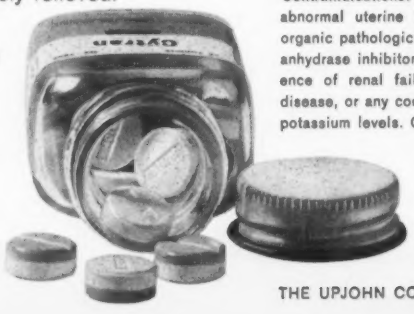


to restore hormonal balance...

CORRECTIVE THERAPY Because Cȳtran contains the new progestin, Provera*, you can now reach the probable cause of premenstrual tension—hormonal imbalance. The estrogen-progesterone ratio is adjusted to more normal premenstrual balance. Abdominal discomfort, shakiness, fatigue—symptoms incompletely controlled by mere symptomatic treatments—are often effectively relieved.

to comfort the patient...

SYMPTOMATIC THERAPY An effective diuretic (Cardrase*) and a mild tranquilizer (Levanil*) afford symptomatic relief during the time required to effect basic correction. They also supplement the activity of Provera in those patients in whom restoration of hormone balance does not completely eliminate edema and anxiety/tension.



Each tablet contains:

Provera (medroxyprogesterone acetate)	2.5 mg.
Cardrase (ethoxzolamide)	35 mg.
Levanil (ectylurea)	300 mg.

Usual dosage: 1 to 2 tablets daily, 5-10 days before the period.

Supplied: As layered tablets in bottles of 20 and 100.

Precautions: Side effects following the use of Cȳtran are rare. The patient should be observed for possible sensitivity to one or more of the components. Drowsiness, if seen, may be relieved by decreasing the dosage.

Contraindications: Cȳtran should not be used in patients with abnormal uterine bleeding until malignancy and all other organic pathologic conditions have been ruled out. Carbonic anhydrase inhibitors should not be administered in the presence of renal failure, hyperchloremic acidosis, Addison's disease, or any condition involving depressed sodium and/or potassium levels. Caution must be observed in the presence of symptomatic hepatic cirrhosis as acidosis may develop. Tranquilizing agents, generally, are not indicated in true depressive states without concomitant anxiety.

†TRADEMARK *TRADEMARK, REG. U.S. PAT. OFF.

THE UPJOHN COMPANY ■ KALAMAZOO, MICHIGAN

From the film—"Skin Grafting of Extensive Burns" by Harry R. Grau, M.D., Cleveland, Ohio

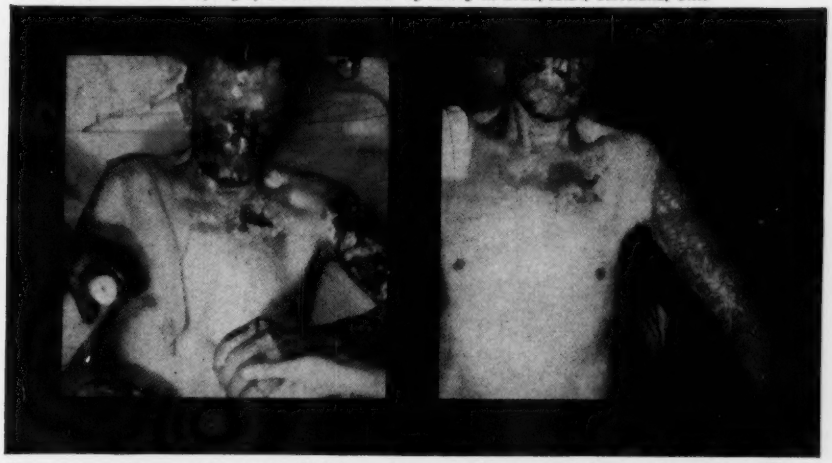


Fig. 1. *68-year-old man with extensive third degree burns caused by gas explosion 2 weeks previously.* **Fig. 2.** *Sixteen days after treatment with* FURACIN Soluble Dressing *and debridement, wounds show healthy granulation tissue free from infection and ready for skin grafting.*

Severe burns: fight infection, facilitate healing

Versatile FURACIN *lends itself admirably to burn treatment.* FURACIN *Soluble Dressing is applied directly, or as impregnated gauze under dry or wet pressure dressings.* FURACIN *Solution is sprayed on the burn area (exposure technic); this leaves a moist, flexible antibacterial film.*

In clinical use for more than 13 years and today the most widely prescribed single topical antibacterial, FURACIN *retains undiminished potency against pathogens such as staphylococci that no longer respond adequately to other antimicrobials.* FURACIN *is gentle, nontoxic to regenerating tissue, speeds healing through efficient prophylaxis or prompt control of infection. Unique water-soluble bases provide thorough penetration, lasting activity in wound exudates, without "sealing" the lesion or macerating surrounding tissue.*

the broad-spectrum bactericide exclusively for topical use

FURACIN®

brand of nitrofurazone

in dosage forms for every topical need

Soluble Dressing / Soluble Powder
Solution / Cream / HC Cream (with hydrocortisone) / Vaginal Suppositories / Inserts / FURESTROL® Suppositories (with diethylstilbestrol)
Special Formulations for Eye, Ear, Nose

EATON LABORATORIES
Division of The Norwich Pharmacal Company
NORWICH, NEW YORK

No. 8 *in a series of washroom survey comments from "SBS soap counselors"*

We showed them how to cut Soap Waste to the bone!

T. J. O'Brien

SBS Division Manager and veteran soap counselor on our East coast, reports these conditions at a large plant in his area:

"We found soap waste a major problem in 17 of the 27 washrooms surveyed. Waste powdered soap deposits made an unsightly mess of washbasins and made floors dangerously slippery — ran up unnecessary housekeeping costs. Employee morale took a beating even though management was paying through the nose.

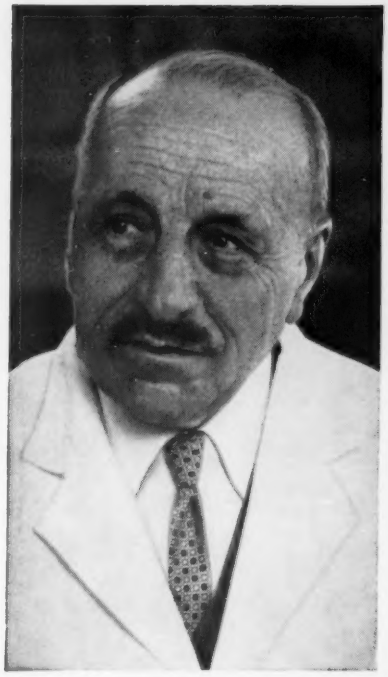
"They were very interested in viewing 'Operation Pinpoint'—especially the part that points out how easily SBS 60 Cream Deodorant Soap prevents waste. We demonstrated afterwards how this thick-bodied cream clings to the skin, won't drip or run off like a liquid or powder. We also pointed out that only 36 'SBS 60' dispensers, filled twice weekly, will do the work of the 67 dispensers now in use that need filling once a day!"

Money-saving suggestions like this *begin* with OPERATION PINPOINT–a thought-provoking presentation filled with facts about skin hygiene and washroom maintenance. The SBS soap counselor serving your area can pinpoint the right soap to do every skin cleansing job best and at lowest cost in your plant. Let him show you OPERATION PINPOINT . . . just call your nearest SBS office, collect.

the washword of industry

SBS sugar beet products co.

SAGINAW, MICH. • Los Angeles, Calif. • Newark, N. J.
CANADA: Chemical By-Products, Ltd., Toronto, Ontario



Why did the American Cancer Society grant this man $688,000?

With $688,000 in research grants, Dr. Papanicolaou developed the *Pap Smear*, a detection aid for uterine cancer that has saved the lives of 175,000 women!

HIS FULL NAME is Dr. George N. Papanicolaou. He allows himself to be called "Dr. Pap," which undoubtedly is a great time-saver for his busy laboratory colleagues. He is responsible for saving the lives of many thousands of women.

Dr. Pap pioneered the Pap Smear—a cell examination that is used to detect uterine cancer in its early stages, when the chances for cure are greatest. Uterine cancer (the second most common cancer in women) causes 14,000 deaths a year. Today, if every woman had the quick, simple examination called the Pap Smear once a year, there would be a *uterine cancer cure rate of nearly 100%*.

Your contribution to the American Cancer Society has made Dr. Pap's great work possible. It will continue to help men like him attain their ultimate goal—a cure for all cancer!

Guard your family. Fight cancer with a checkup and a check.

AMERICAN CANCER SOCIETY

VALUE

TOPICAL STEROID NEWS: BREAKTHROUGH IN THERAPY

In steroid responsive dermatoses you may prescribe new Panzalone Cream for rapid healing without concern about side effects and cost-to-patient, even when used on extensive areas for prolonged periods.

2% CREAM

PANZALONE T.M.

delta-5-hemisuccinoxypregnenolone*, DOAK

PRICE

BREAKTHROUGH IN THERAPY

because the 2% concentration of Panzalone Cream helps assure quick relief of symptoms and more rapid healing of lesions,

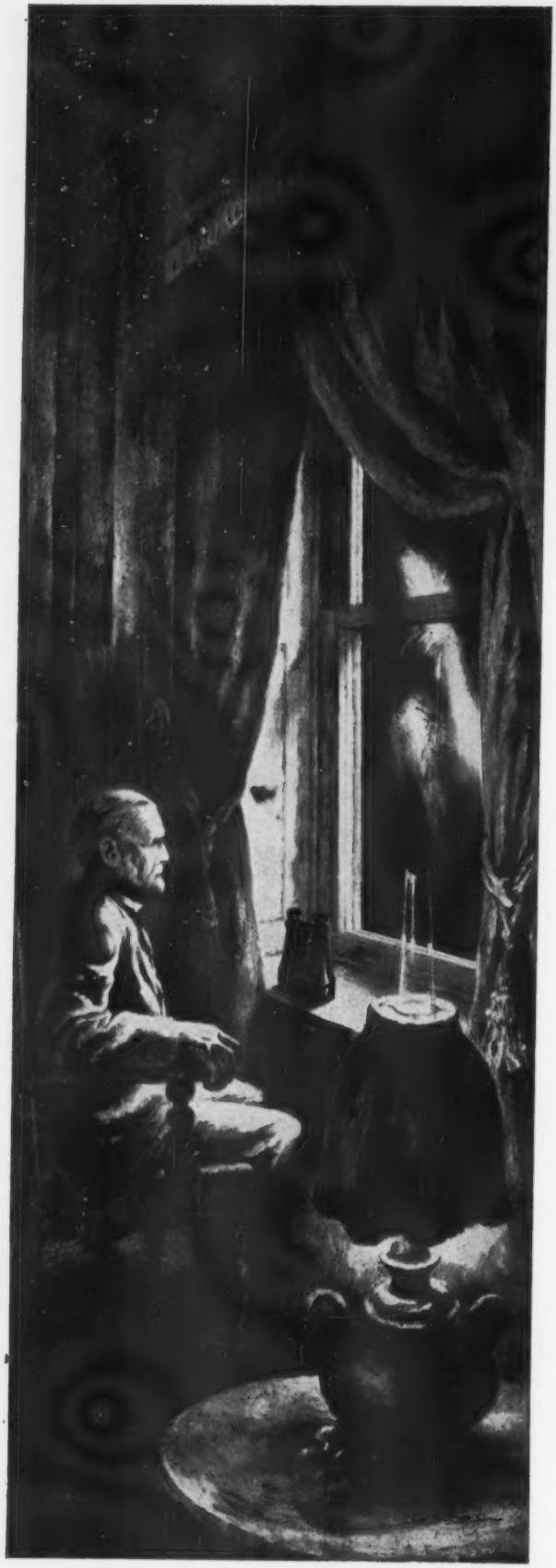
because Panzalone is a new and fundamentally different steroid for topical application; it is non-corticoid and thus cannot produce corticoid side effects and

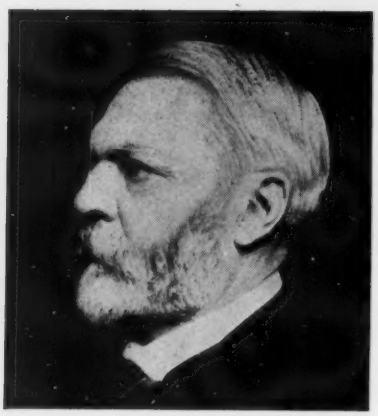
because cost-to-patient of an Rx for Panzalone Cream, reflecting the economies in synthesis of this new steroid, will be less than ½ the average for comparable topical steroid creams.

Panzalone Cream is applied 3-4 times a day, supplied as 15 Gram (½ oz.) tubes. Each gram of water washable cream contains 20 mg. of delta-5-hemisuccinoxypregnenolone (Δ^5-pregnen-3(β)-hemisuccinoxy-20-one), DOAK with Buro-Sol®, DOAK (equivalent to 3.38 mg. aluminum acetate), pH 5.5. Distributed in Canada by Trans-Canada Pharmacal Co., Montreal, P. Q.

*PATENT PENDING

DOAK Pharmacal Co., Inc., New York 16, N. Y.





The man who wouldn't give up

500 MASSED ROCKETS shook the brand-new Brooklyn Bridge, screamed up into the May evening and showered the city with red and gold.

While behind a darkened window, a big, gaunt man sat and watched, too crippled and pain-wracked to attend the opening day festivities for the bridge.

This was a pity, for he had built it.

Which means that when money gave out, Chief Engineer Roebling pleaded for more. When disturbing changes of plan had to be made, Roebling fought them through. And when a hundred panicked men were trapped under the East River in a flooded caisson, Roebling saved them.

Spinning the giant steel spiderweb not only exacted 13 years of Roebling's life, from 1870 to 1883, but very early in the game it crippled him forever with the caisson disease.

But he never gave up, saw the job through to the end. His were the courage, skill and vision that make Americans a nation of great builders—a strong, growing nation. And a nation whose Savings Bonds rank with the world's finest investments.

For the constructive strength of 168 million Americans stands behind these Bonds. This is why, when you buy U.S. Savings Bonds, our Government can absolutely guarantee the safety of your principal—up to any amount—and the rate of interest you receive.

You cannot get a better guarantee than that. Why not invest in U.S. Savings Bonds regularly—where you bank or through the Payroll Savings Plan where you work? And hold the Savings Bonds you have.

Safe as America—U.S. Savings Bonds

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BENYLIN EXPECTORANT

specifically designed to help control cough

Just as a medical instrument is engineered for maximum efficiency in performing its specific function, BENYLIN® EXPECTORANT is formulated to provide effective relief of cough associated with colds or allergy.

This outstanding antitussive action of BENYLIN EXPECTORANT is attributed to a carefully selected combination of therapeutic agents. Benadryl,® a potent antihistaminic-antispasmodic, reduces bronchial spasm, quiets the cough reflex, and lessens nasal stuffiness, sneezing, lacrimation, itching, and other allergic manifestations. Concurrent respiratory congestion is relieved by expectorant agents that efficiently break down tenacious mucosal secretions. In addition, a demulcent action soothes irritated throat membranes. 50461

BENYLIN EXPECTORANT is a pleasant-tasting, raspberry-flavored syrup... completely acceptable to patients of all ages.

supplied: BENYLIN EXPECTORANT is available in 16-ounce and 1-gallon bottles.

Each fluidounce contains: 80 mg. Benadryl hydrochloride (diphenhydramine hydrochloride, Parke-Davis); 12 gr. ammonium chloride; 5 gr. sodium citrate; 2 gr. chloroform; 1/10 gr. menthol; and 5% alcohol. *Indications:* Relief of coughs due to colds, and other symptoms associated with colds, and coughs of allergic origin. *Dosage:* Adults—1 to 2 teaspoonfuls every three to four hours. Children—½ to 1 teaspoonful every four hours. *Precautions:* Products containing Benadryl should be used cautiously with hypnotics or other sedatives; if atropine-like effects are undesirable; or if the patient engages in activities requiring alertness or rapid, accurate response (such as driving).

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

Proven

in over six years of clinical use and
more than 750 published clinical studies

Effective

for relief of anxiety and tension

Outstandingly Safe

1. simple dosage schedule produces rapid, dependable tranquilization without unpredictable excitation
2. no cumulative effects, thus no need for difficult dosage readjustments
3. does not produce ataxia, change in appetite or libido
4. does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis
5. does not impair mental efficiency or normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; in bottles of 50.

Also supplied in sustained-release capsules . . .

Meprospan®

Available as Meprospan-400 (blue-topped *sustained-release* capsules containing 400 mg. meprobamate), and Meprospan-200 (yellow-topped *sustained-release* capsules containing 200 mg. meprobamate).

CM-4234

WALLACE LABORATORIES / *Cranbury, N. J.*